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OUTLINE OF BUSINESS

PART I

THE
WORLD'S ESSENTIAL KNOWLEDGE
VOLUME V

OUTLINE OF BUSINESS
PART 1

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OUTLINE OF BUSINESS

PART I

I

THE MEANING OF BUSINESS ECONOMY

IN A PANORAMIC SKETCH of machines and merchandise, counting-houses and factories, in a story of the evolution of the market-place, in an exposition of current business organization, in a scrutiny of accepted business technique, in any speculation about the destiny of modern business, what can there be of cultural value to man in civilization? What place has a knowledge and understanding of "business" in the cultural equipment of the average man?

Certain it is, that the intelligentsia who write and talk for a living, and do little else, have long been prone to castigate business. The sophisticated and the cynical continually remind us that business has contributed nothing to our civilization but crass materialism and the many and varied debasements incident to its pursuit. Their jottings are often intriguing. Some writers, like Aldous Huxley, for example, are positive prophets of doom. In his recently published book,

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Proper Studies, this younger Huxley decries business with the fervor of a professional crusader tilting at a devil technique. He says, in part:

The qualities required of the contemporary servants of society are simply business acumen and the indispensable minimum of conventional honesty. Modern business organizers . . . fill their advertisements with sanctimonious phrases. For the benefit of their employees they publish grandiloquent accounts of the Firm's activities (The Firm or House is always spelt with a capital letter, as tho it were a divine entity), showing how efficiently and with what Christian devotion it serves the world. They train their children up in the belief that business is a religion.

Success—"the bitch goddess, Success," in William James's phrase—demands strange sacrifices from those who worship her. . . . One thing alone is absolutely certain of the future: that our Western societies will not long persist in their present state. Mad ideals and a lunatic philosophy of life are not the best guarantees of survival.¹

And yet, "business" is the work of the world, humanity's chiefest task. It has been so to a greater or lesser degree for centuries. Business Economy is with us to-day, and it is not likely to disappear ere the morrow. Entirely apart from the minutely particularized phases of business activity in which most of us are engaged, "business" touches our lives at a myriad points. We

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cannot escape its influence by sitting on the sidelines and watching the world plunge by. Its reach extends into our holiest cloisters and our most easeful retreats. Any attempt to flee it or to dismiss an understanding of it as unworthy of a place in our cultural equipment can only result in the extreme pessimism of some artificial philosophy of escape. Cynical despair is the invariable reaction of the man who will not make any emotional adjustment to an economic world that may be irrelevant to his dream. Then, too, it is hardly courageous either merely to lean back in skeptical observation of the passing scene or to shrink from the realism of the present in order to turn our faces back to the traditional glories of former ages.

To assert that our current business economy is all wrong is to assume not only that we ourselves are all fools but that our forbears, too, were all fools. For business economy as we have it was their work as much as it is ours. It is in part an unconscious growth from their innate tendencies and habits as human beings, and in part the conscious adaptation of that growth, by lopping and pruning and grafting to ends deemed desirable. The task of the present is for all to understand our current issue of business economy and its background growth in order to ascertain within what limits further

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conscious lopping, pruning, and grafting may be desirable.

A knowledge and understanding of business economy is a necessary part of the cultural equipment of every well-informed person, no matter how active or inactive his or her part may be in the actual guidance or conscious adaptation of business economy. Such knowledge and understanding is culturally important because business economy for centuries has constituted the substructure of civilization. The arts, religion, and learning are, perhaps, the finer aspects of civilization; but civilization is many-sided. It involves economic considerations as well as moral, spiritual, political, and esthetic considerations. Apparently, the clearest and most accurate definition of civilization is to be found in the following sentence from the writings of Mr. Charles A. Beard:

Aside from all philological subtleties, civilization in its strict modern sense includes all these implements, devices, and practises by which men and women lift themselves above savages—the whole economic order, the system of leisure built upon it, the employment of that leisure, and all manifestations of religion, beauty, and appreciation.⁷

The economic order is the material fabric of civilization, the woven texture of the foundation threads that free mankind from the status of the

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savage. The arts, religion, and learning, of and by themselves, cannot make up the habiliments of civilization. Civilization's brightly decorated segments will survive only in so far as the material texture of her garment persists. As Mr. Beard has frequently pointed out, except for some of the minor decorative arts, a civilization cannot be borrowed without reproducing the accompanying economic order. The arts, religion, and learning, to be sure, are elements by which men and women lift themselves above the savage, but they are elements that are themselves bent to the economic order in which they live and thrive, that "have meaning and vitality only in relation to their economic substructure."³

The characteristic economic order of the present so-called western civilizations and of most preceding civilizations is a business or money-profits economy. The effects of this seeming dominance of civilization by a business or money-profits economy have been of incalculable importance. It was in a business economy that capitalistic methods were introduced into agriculture and into manufacturing. It was in a business economy that the commercial middle class induced the legal and constitutional revolutions of the eighteenth century under whose forms we still live. It was in a business economy that the machine was born and reared.

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Engines did not come to save men the brutality of dull labor, to help an emperor build an imperial city, to irrigate and replenish waste lands—they came because English traders wanted to increase their profits by making cheaper cotton to sell abroad.

Indeed, one might ask the very pertinent question, What would have become of the celebrated names in painting, poetry, sculpture, and architecture down through the centuries, had it not been for the patronage and endowment of merchant princes, earning and profiting under an order of business economy? The Medici in their Florentine palaces had their Michelangelos, Raphaels and Cellinis in generous number because they had the merchant earnings to call forth great art. In the town of the thirteenth and fourteenth centuries the humblest peasant singer of rural ballads could always find a merchant patron who would support and encourage him. In our present highly complex system of business economy the money for learning and the arts comes in increasing proportions from taxes on business and gifts by captains of capitalism. And yet only the prophets of doom rise up to say that the arts are languishing—architecture, painting, sculpture, music, literature, design, and even the theater. Truly, while at times the effects of “business” have been sordid and venal, yet by and large business economy

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is "a vehicle for the progress of humanity in all directions," the very means of existence for the finer aspects of civilization.

What is this economic system or order which we have called "business economy"? Many people become quite unnecessarily alarmed when they hear or read such terms as "political economy," "business economy," "profits economy," and so on. They think of economics as something dismal and of its terminology as too difficult for ordinary minds—like the Differential Calculus or the Fourth Dimension. As a matter of fact these terms are anything but difficult. "Economy" means simply: practical and systematic management. Coupled with the word "business" its meaning grows somewhat, but essentially the whole term "business economy" means nothing but practical and systematic management in making and spending money. The outstanding feature of an economic order which may be called a business economy is that economic activities are carried on mainly by making and spending money. A business economy does not develop in a geographical or political locality until most of the material activities of that locality take the form of making and spending money. When men, instead of making goods which their families need, "make" money, and with their money-incomes buy for their own use goods

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made by other hands, then dawns a business economy.

The mere use of money as a medium of exchange should not be mistaken as the matter of most importance to an understanding of the term "business economy." In Shakespeare's day, English standard money consisted mostly of silver coins. There were no copper coins and few gold coins. Shakespeare, then, rarely saw any except silver coins. Accordingly, he makes Bassanio as he determines his choice of caskets in *The Merchant of Venice* pass over the silver casket and address the metal in scorn as: "Thou pale and common drudge 'tween man and man." Money, in the sense of exchange, is just that: a drudge 'tween man and man. It is a tool with which to move commodities, a drudge that does a certain work—namely, that of passing goods from one man to another. The appearance and use of money as a convenient and widely-accepted tool of exchange in a community is not a significant consideration (altho a necessary one) in defining the economic order of that community as a business economy. The paramount matter is the organization of production, distribution, and consumption on a basis of money-making and money-spending.

A satisfactory definition of "business economy" is, then, as follows: A business economy is an institutional arrangement in which the

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material activities of people consist of making and spending money-incomes.⁵ Money occupies the central position in a business economy because it is the medium in terms of which economic motives express themselves. In a business economy the material comfort or misery of a family, for example, depends more upon its ability to command an adequate money-income and upon its pecuniary thrift, than upon its efficiency in making useful goods and its skill in husbanding supplies.⁶ Charles Dickens reveals the process through the mouth of Mr. Micawber. "My other piece of advice, Copperfield," said Mr. Micawber, "you know. Annual income twenty pounds, annual expenditure nineteen nineteen six, result **HAPPINESS**. Annual income twenty pounds, annual expenditure twenty pounds ought and six, result **MISERY**. The blossom is blighted, the leaf is withered, the God of day goes down upon the dreary scene, and—and in short you are forever floored. As I am!"

In a business economy the principal driving motive is inevitably the desire for profits. The material needs of man, conditioned as they are by the institutions of business economy, by the very organization of production, distribution, and consumption, cause every individual's welfare to be regulated very largely by pecuniary considerations. Because of the influence of these

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institutions the primary economic interest of every individual consists in making money. Making goods is only a means of making money—profits. "A person's command over want-satisfying goods and services is determined not by his usefulness to society or his virtues as a citizen, but by the amount of money at his command." The hope of profit is the causal influence behind the production of goods. Production is not for society but "for the market." Business leaders subordinate the making of goods to the making of money. They are compelled so to do by the system of business economy of which we all are parts. If they fail to make their profits they cannot go on making goods.

To be sure, railroad employees, for instance, serve the public or they would not have their jobs. But they do not seek their jobs primarily to serve the public. Some of them may find a joy in this service, but even these insist upon being paid for it. The same is true of miners, bricklayers, plumbers, carpenters, and most statesmen and politicians. Even teachers, doctors, and ministers in many cases (one is tempted to say most) do not accept the opportunity to serve as the chief reward of their professions. All over the world now, as you ponder these thoughts, men are at work for you—planting the tea you will one day drink, sowing the corn you will one day eat, shearing

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the wool you will one day wear, curing the tobacco you will one day smoke, and so on indefinitely. These men do not do these things because of any direct affection for you. To begin with, they do not even know you. They do these things to serve themselves, to make a money-profit. You can do none of these things for yourself. Unless they are done for you and unless you have enough money-income to secure their results for your use and enjoyment, you will, in the short run, be with Mr. Micawber, "on the rocks."

Natural resources, mechanical equipment, skill, and scientific technique will always be, as they always have been, factors of vital importance under any form of economic organization and in any civilization. In a business economy, moreover, natural resources are not and will not be developed, mechanical equipment is not and will not be utilized, skill is not and will not be exercised, scientific discoveries are not and will not be applied, unless conditions are such as to promise or hold out the hope of money-profit.⁸

From a purely social point of view, the aim of productive economic activity is to create utilities which will satisfy human wants. Money-making is important to a society because of its bearing upon efficiency in production. Comfort and misery, socially considered, do not depend upon the aggregate of money-incomes received

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by the individuals that make up society, but upon the abundance of useful goods produced by the society. Here, then, is the challenging material conflict in a business economy, the absorbing anomaly which has baffled and perplexed the economists of the past and present. The contradictions are plain. In a business economy, society is well off in proportion to its efficiency in producing a current supply of the necessities, comforts, and amenities of life, but an individual member of the same society is well off in proportion to his efficiency in acquiring a money-income.

It is this melodramatic conflict of contradiction which so intrigues the critics of "business." They look to the past and tease their minds with the methods of the bazaar, *Caveat emptor* (Let the buyer beware!) ; they look to the present and see only a piling up of non-utilities and anti-utilities for the sake of profit. They hurry to the conclusion that in a business economy the bristling economic contradictions can never be resolved, compromised, or integrated; that "business" is inevitably anti-social. Then they anathematize and damn!

However, it is extremely easy to exaggerate the seriousness of this conflict between making goods and making money, between social and individual ends. It is disengaging to dispose of the business man as selfish and self-seeking with

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never a thought for the task of satisfying human wants. So considered, the business man need not and does not put on the market any real utilities. Rather, because he can make more money through making and selling non-utilities and anti-utilities, his "business sense" continually prompts him to such a course. Hence an anti-social result. Unfortunately for the business critic, such a chain of reasoning contains many highly precarious assumptions. There is, first, the assumption that the growth of a business and its profits, in the long run, depend upon making and selling inferior goods or goods that may even be hurtful to society. This assumption hides a persistent and uncomfortable question: *Can* such goods be disposed of continually and consistently in "the market" at a profit? There is, in the second place, the assumption that the results of business efforts in the making and selling of goods for money-profits are categorically pro-social results or anti-social results. Such an assumption misinterprets the word "social," a word that admits of the comparative degree. Individual business activities produce results which may be more social or less social. Each individual business effort does not necessarily bring about a result that is perfectly anti-social or perfectly pro-social. Finally, in the foregoing reasoning, there is a somewhat similar classifying difficulty, the difficulty of

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classifying goods as "utilities," "non-utilities," or "anti-utilities" with an exact precision which will be universally accepted. So much depends upon the prejudice or preference of the classifier. From Rousseau to Spengler, for example, many classifiers have lived and died who protested against the "machine" as an anti-utility, socially considered. Few honest servants of humanity have been so roundly cursed as the "locomotive," the innocent child of Stephenson.

Again, money-profits are not the only incentive to business activity. Various other motives—some of them are of a very high order—are continually operating as productive stimuli. They have a place in a business economy that many of the early economists and most of our modern lampooning *literati* fail to give them. Senior's⁹ proposition that "every man desires to obtain additional wealth with as little sacrifice as possible" is not the sole and cardinal factor. It is anything but the ultimate proposition in business economy beyond "which reasoning cannot go."¹⁰ As a matter of fact, reasoning must go infinitely further if it is to take an inventory of all the mainsprings of business activities. The picture of the business man who, in his greed, is either engaged in holding back goods and services from a needy society or is mainly interested in cramming non-utilities and anti-utilities into the collective gullet of a credu-

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lous public is not a typical or recognizable delineation. Too many modern business men accept and believe Mr. Carver's apt observation that "they who follow the pig-trough philosophy of life can never enjoy the prosperity of those who follow the work-bench philosophy of life."¹¹ The essential fact is merely this: In a business economy, the individual business man is obliged to make profits his first aim—not his highest aim, not his ultimate aim, not his most cherished aim, but his first aim—for unless he does so, he is in danger of eliminating himself from the business world. "A successful business man is much more than a calculating machine; but . . . he is first of all a good enough calculating machine to keep his balance sheets out of the red."¹²

Moreover, the business man who organizes a business with the first aim of making money-profits may serve society as well or better than he would if his first aim were not what it is. Henry Ford has made it possible for almost anyone to own an automobile. His is probably a service to society, altho from this statement many ascetics and flagellants will dissent. Mr. Ford, however, accomplished this service—for so it is considered by the main stream of society—by first seeking money-profits. As he made money-profits he created "more jobs for more men" and enlarged his service. An incidental

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but significant thing about his activities is that his one great attempt to serve without money-profits—the Peace Ship Project—was a humiliating failure. He did not get the boys out of the trenches before Christmas. All around us at this moment, farmers, weavers, blacksmiths, mechanics, cooks, physicians, *et al.*, are busily occupied in the performance of the countless functions necessary to the creation of goods and the rendition of services which we commonly require. These men do these things to serve themselves, to secure money-profits, yet they also serve us. In other words, in a business economy, society is sane enough and cute enough so to organize the self-regarding tendencies of man as to produce results that probably could not be bettered very much at any given moment if men suddenly became what biologically they are not likely to become, completely unselfish and entirely altruistic.

Our inquiry into the nature and meaning of a business economy is not yet complete. There are two very definite economic institutions, characteristic of our business economy, which need to be presented and discussed. We have not discussed them before because they are not the exclusive possessions of a business economy. They could exist outside of a business economy. But now, in order better to understand the meaning of business economy, and in order further to

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avoid exaggerating the gravity of the conflict between social and individual ends in it, we must give some attention and thought to two important economic institutions, "private property" and "freedom of enterprise."

It seems impossible to conceive of "business" without the economic institution (established social habit) of the private ownership of property. The tobacco in the humidor by my side is my property. It is a commodity about to satisfy a want. When I feel the desire for a soothing smoke, I must be able to control the tobacco, the want-satisfying commodity. If someone could snatch and steal my tobacco at any time with impunity, wo betide my want, and my work as well, I fear. And when I say "impunity," I do not mean to indicate that my power to dispose of my tobacco (property) in the satisfaction of my want depends entirely upon the strength of my right arm. There was an age when man's power over his possessions was so dependent. But now the law protects me in my right of property: the law is my right arm. So long as man must defend his possessions with his right arm there is no property; he has no right. When he can appeal to an umpire to protect him, then his possession is guaranteed; his possession is transformed into property. Now, the tobacco in my humidor is my property only because the tobacco fields in Connecticut

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and Virginia are someone else's property. The two rights of private ownership of property are, in a sense, linked together. If, in Virginia or in Connecticut, the tobacco fields could be forcibly seized by anyone who had the force, there would soon be no fields of growing tobacco there and no tobacco in my humidor. Business in this commodity would quickly cease. One of the most important economic institutions in a business economy, then, is the private ownership of property, sanctioned and protected by society. This does not mean that society has no claim on the property which it safeguards. Society has a claim and exercises it through taxation, a claim which is thoroughly and rigorously pressed. It does mean, however, that society, in its own interests, after it has stated and exacted its own claims, must see that the balance which it does not claim is carefully safeguarded for its owner.

Again, the tobacco is in my humidor because anyone who likes is free to become a supplier of tobacco and to offer to serve me, a consumer of tobacco. In fact, many, many men, of their own free will, have undertaken to become vendors of tobacco. It so happens that I have selected the one on a near-by corner to serve my turn. At any time, if I do not like the way he keeps my favorite brand in his cupboard humidors, I am at liberty to walk across the street and make my purchases elsewhere. I

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can compel him to compete with his fellow retailers for my custom. In other words, this freedom of making, selling, and spending arises from property rights and is the privilege or right of doing what you want with what belongs to you. This does not mean, however, that society permits us unlimited freedom to exercise this right when its use endangers the safety, health, or moral welfare of others, or injures the general and common welfare.

The private ownership of property and freedom in the use of property have been accepted institutions of business economy for a very considerable period. They have been safeguarded purposively in our business economy and not out of malice. Even Sidney and Beatrice Webb, the distinguished exponents of social reform, do not hesitate so to testify:

The economic institutions necessary to the vocation of profit-making—private property in the instruments of production, and free enterprise in the use of such instruments—were maintained and developed by British and American statesmen and legislators during the eighteenth and nineteenth centuries, with the approval of the economists, because these men honestly believed that unrestricted profit-making by manufacturers, traders, and financiers was the most effective way of increasing the national wealth."

If we tone down the adjective "unrestricted," it is safe to say that this statement represents

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quite accurately the beliefs of a majority of the leaders of business, the economists, and the statesmen of the present day. Inevitably, of course, there will always be some critics who will speak and write of the institution of property as tho it were "some piece of mechanism invented, manufactured, and forced upon an unwilling people."¹⁴ So, too, swayed by the old proverb that "what is one man's meat is another man's poison," many will rise up to denounce freedom of competition as contrary to the whole spirit of ethics and religion which is expressed in the Golden Rule—as a satanic canker in our economic world.

Now, the confusion and conflict between social and individual ends, which has been pointed out as a striking economic anomaly in our business economy, is caused, fundamentally, by these two basic economic institutions, the right of private ownership of property, and its derivative right of freedom of enterprise.

"Private property" has been the central position against which the social movement of the last hundred years has directed its forces. The criticism of it has ranged from an imaginative communism in the most elementary and personal of necessities, to prosaic and partially realized proposals to transfer certain kinds of property from private to public ownership, or to limit their exploitation by restrictions imposed by the State. But, however varying in emphasis and in

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method, the general note of what may conveniently be called the Socialist criticism of property is what the word Socialism itself implies. Its essence is the statement that the economic evils of society are primarily due to unregulated operation, under modern conditions of industrial organization, of the institution of private property.¹⁸

The only way completely to resolve the economic conflict, to establish a situation in which the interests of every individual would be entirely compatible with the interests of the group, would be to scrap "private property" and its twin, "freedom of enterprise." A mere reversion to a barter economy—the exchange of goods without the use of money—would not resolve the economic anomaly. The same friction between social and individual ends would persist in a system of barter if "private property" and "freedom of enterprise" remained as essential economic institutions. The important point is here: a business or money-profits economy does not cause the economic anomaly, the conflict between social and individual ends. The most that can be said is, that a business or money-profits economy may intensify the conflict.

And yet the business economy of the present in all probability leads to the creation of greater wealth and promotes the common welfare better than any other feasible economic system that has ever been tried on a large scale or that has yet

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been devised and suggested by the minds of men. To date, production and distribution on a large scale and embracing a sufficient variety of goods to satisfy consumers has nowhere been successful except under the urge of the profit motive of a business economy.¹⁶ Moreover, our present business economy has evolved through a process of human selection. As Mr. W. C. Mitchell has pointed out, our present business or money-profits economy has developed spontaneously in all the most progressive nations of the world.¹⁷ When some pioneer first decided to spend all his time making shoes, he was obliged to secure his food from someone else. He was not forced to spend all his time making shoes, but he decided that he would be better off by so doing than if he also produced his own food. He sold his shoes for a money-profit and bought his food by paying a money-profit to the producer of food. It was an arrangement that benefited both.

No one forced our forefathers in America to give up raising their own food, making their own clothing, and cutting their own fuel. They changed from the practise of making goods for their own families to the practise of making money-incomes and buying goods made by others because they liked the results of the more elaborate plan better. . . . So almost all the elaborate machinery of the money-economy has grown up by slow degrees because men thought they got

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more goods or better goods when they worked for money than when they produced for themselves.¹³

Such, then, in broad outline, is the meaning of business economy. The picture, of course, is not completely developed and finished. It needs some background detail touching upon the Evolution of Business Economy, some vivid description of the Modern Organization for Making Money, some clear exposition of the Technique of Modern Business Activities, and some careful analysis and sober consideration of Present and Future Business Problems. These details the following chapters will attempt to present.

Throughout the succeeding pages, in order to combat the cynical distrust and despair of the critics of "business," it will not be necessary to assume that our present business economy is working perfectly or that there are no evils growing out of it. If such an assumption were possible "there would be nothing more to be done except to enjoy the economic Eden to which our portion of the human race had been restored."¹⁴ Certainly such perfection has not yet been attained. The important considerations are simply these:

1. Does our present business economy contain possibilities of conscious adaptation and improvement that will bring us to some solution of the so-called economic anomaly?

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2. If so, are we making progress in that direction?
3. Can we retain the good and extract the evil from our characteristic economic institutions without scrapping our business economy in its entirety and starting over with some entirely new system or economic order?

Broadly speaking, there are three ways of dealing with conflict: resolution, compromise, or integration. Which method shall we adopt in dealing with the economic anomaly? This question, our survey of the Evolution of Business Economy, our description of the Modern Organization for Making Money, our exposition of the Technique of Modern Business Activities, and our analysis of the Problems of the Future, will attempt to answer.

II

THE ANCIENT BEGINNINGS

SOME sense of the history of "getting and spending" as the common adventure of most of mankind is necessary to any sure understanding of our present business or profits economy. In fact, even a casual speculation concerning any of the institutions of our contemporary civilization—political, social, religious, esthetic, or economic—leads us back to England and France, to Germany and Italy, to Rome and Greece and Palestine and Persia and Egypt. Unfortunately, it is a common convention for writers and orators to assume that any serious thesis or platform speech must begin with Babylon, Greece, and Rome, a convention which is oftentimes boring to the yawning point. Worn-out chronicles and non-essential preliminaries kill interest. However, the tale of the evolution of present-day "business" is presented here not because it is conventional so to proceed, but because the history of business economy—its genesis and exodus, its wanderings, and its sight of the promised land—is logically necessary. We cannot fairly forswear the past.

Nomads of the desert, dwellers in Athens and Alexandria, hunting tribes in the European for-

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ests, fishermen of the North Sea; the worlds of the Persians and the Hebrews, of the Greeks and the Romans, of the Arabs and the Christians and the Jews, of Italian and German merchants, of French and English peasants—all these have given ideas and ways of living to modern America. Take away one of these ages and peoples, and our own civilization would be the poorer. All have played their part in giving us our culture.¹

Mankind has always been an incessant borrower. Man's sole originality has always lain in the new combinations of old ideas and institutions which he has been forced to make. The basic and unit elements that form the economic substructure of our contemporary civilization are recorded in the annals and log-books of a dozen different ages and peoples. Because our present business or profits economy is the "heir of many ages" and is scarred by the conflicts of its own evolution, because it has been "woven from a host of different elements," each one of which has left its impress, it is impossible to comprehend the economy of the present without knowing the record of its past.

Moreover, it should be said again that the material institutions of an economic order are causal elements which mold all the finer aspects of a civilization. It is not putting the cart before the horse to say that civilization, in a narrowly esthetic meaning, is a creature of eco-

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conomic circumstance. The economic order bends and twists the arts, religion, and learning to its own purposes. The institutional structure of the economic order under which a civilization lives fashions the "finer" aspects of that civilization. And the "finer" aspects have "meaning and vitality only in relation to their economic sub-structure." Purely "cultural" traces of previous orders persist and push themselves upward to be borrowed and worked into new combinations by new orders, "but they thrive only in so far as they carry with them the soil that originally nourished them." ² In this generation these propositions are becoming widely accepted and the necessity for an economic interpretation of all history is bearing in upon the minds of our most academic historians, purists in political, social, religious, or esthetic history tho they may be. Some systematized knowledge of the evolution of the present business or profits economy, then, seems worthwhile and pertinent to the average man in order that he may clarify his notions about "business" and its contributions to preceding civilizations and to our own. So equipped, he will be better able to invite those who with cynical facility decry "business," in all its aspects and in its entire history, to deliver a bill of particulars.

From still another point of view, an orderly survey of the development of business economy

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is important. To the humble observer who looks out of his window at the daily stream of "business," inquiring its course, the phenomenon appears as a commonplace and organic whole. It seems to defy any division and examination of its component parts. The simple fact is that we are all so close to contemporary "business" that it is well-nigh impossible for us to view it objectively. The best we can do is to practise a kind of subjective "introspection into our own mental processes" as they relate to business activities. Unless we detach ourselves from the present to peer into the past, an objective vista is almost unattainable. Our best procedure, then, in any effort to comprehend the present is to trace the whole growth and development of the uses of money in the economic order. Only by filling in our background objectively can we hope to analyze the contemporary situation. Only by maintaining a proper perspective of the past and by noting how mankind "has slowly evolved one element in the complex after another," will that which is "so familiar and organic a whole to us" dissolve "into thought-suggesting parts."

Three methods of presenting the tale of "business" are available. We may proceed chronologically by following the sequence of the years, or we may discuss business development stage-by-stage without particular reference to

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time, or we may do both. In order to provide a sufficient background, it seems wise to use the last-named method. Accordingly, the balance of this chapter and the two chapters which follow will attempt to sketch the evolution of our contemporary business economy by following the order of passing time, by relating events to sequential dates. The "whens" are significant. Every important happening has causes and results, and to discover these causes and results we must know what preceded and followed the particular happening.

An economic order at any time consists of specific events, customs, and institutions, that go together. What unites them is their simultaneous occurrence. "They are a bundle of sticks which must be tied together with a date."³ In order to associate closely together all simultaneous happenings and to cultivate a feeling of perspective for the lapse of time, some familiarity with a chronological survey of business economy is highly desirable. But this familiarity alone will not suffice. In a sense, any division of the historical stream into such parts or periods as ancient, medieval, and modern is fundamentally fallacious.⁴

The status of an economic order is not determined absolutely by the element of time. In fact, from the point of view of time, the development of business economy has not been at all

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uniform over the whole of this earthly globe or over all the sections of any country on it. In this twentieth century, business economy exists in some areas in a stage of infancy. In others it is adolescent and in still others it is mature. The time sequence is immaterial in the purely genetic sense of an evolution from the simple to the complex. The distinction involved in a classification of business economies as ancient, medieval, and modern, considered as simple products of time, is without much meaning.⁵ What is important is the stage-by-stage development of business economy. Consequently, in order to complete the background, the final chapter of this part of our study attempts a descriptive survey of the general stages of economic development.

The chronological history of economy harks back through the ages and into the haze that hides the beginning of humanity. In the far-off, dim stretches of time, men began to take their faltering first steps toward the use of money. Of this vague and remote past we have few certain records and so in our school-days this whole period was commonly called prehistoric—beyond the bounds of history. To-day, because of the discoveries of the archeologists and the anthropologists, some historians are loath to use the adjective “prehistoric” and venture many inferences about these systematically-unrecorded ages.

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And yet, in spite of the valuable material discoveries of the archeologists and the careful measurements, classifications, and generalizations of the anthropologists, our knowledge of these dim days is so scanty and meager and is so loosely tied together by conjecture and guesswork that it is far from reliable.

The story of the past as it has reached us is, indeed, in many respects like the ruin of some ancient amphitheater or medieval monastery. Some sections are better preserved than others, some parts are gone entirely, others have been faultily restored by later writers who failed to catch the spirit of the original. In some places nothing is left but a shapeless core of vague statements or a few bare dates and facts. Elsewhere we get a vivid glimpse of the life of the past in its original coloring. Sometimes the story has improved with age, as ruins are sometimes beautified by becoming weather-beaten or overgrown with moss. So the haze of romance, or the glamour of hero-worship, or the mere spell of antiquity, add to the past a charm that is history's own.

The evolution of economy in the so-called prehistoric period was probably a very slow and tedious development. Conjecture has it that man first began to exchange gifts and then to barter for the sake of goods. An animal fur may have been the first article ever bartered. A weapon for hunting, perhaps a stone club, may have been the next. Thus the modern fur dealer and sport-

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ing-goods merchant may perhaps lay claim to the greatest antiquity in "trade" as distinguished from "business." However that may be, it is certain that we cannot go back to the time when men did not barter—trade goods for goods. Amber, found only in the Baltic, was common in the earliest ages of Ancient Greece. And epochs before that, goods moved about the so-called pre-historic world in astounding fashion. Expert judges think that certain stone axes, discovered in France along with other relics of primitive man, are made of a kind of jade found only in far-off Asia.

Barter begins with the exchange of superfluous goods. A man with a weapon to spare, say a tomahawk, barter it for a bundle of cord for tying up the hair. Later, as life becomes settled, the separation of employments or the so-called "division of labor" begins. The man who is particularly skilled in making weapons finds that his products are in demand by others and gives more and more time to that in which he excels. He discovers that he can build up a surplus of weapons and barter that surplus for his living necessities. Then, in all probability, the concept of ownership begins to take more definite form. Then, too, begin experimental efforts to express values in a common denominator and to use some commodity as currency. These early attempts to develop specialized oc-

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cupations, to hold markets, to find a medium of exchange, and to "mix trading as a business with cattle lifting, man stealing and town sacking" shroud the genesis of business economy.

Just when man began to use coined money is not definitely ascertainable. Before the sixth or seventh century B. C. practically all trade was carried on by barter—the exchange of goods for goods. It is quite unlikely that there was any credit or coined money.

The ordinary standard of value with the early Aryans was cattle, as it still is with the Zulus and Kaffirs to-day. In the *Iliad*, the respective values of two shields are stated in head of cattle, and the Roman word for moneys, *pecunia*, is derived from *pecus*, cattle.

Anything, of course, can be money that will do the money work, and a curious assortment of things have been used as money at one time or another—shells, sheep, iron ingots, blocks of salt, bullets, cubes of pressed tea, and so on. In the colonial days of our own country, tobacco was legal tender; in West Africa fines are paid and trades are made in the currency of gin. Aristotle tells us that iron supplied the first currency, and Cæsar in *De Bello Gallico* mentions the fact that iron bars of fixed weight were used for currency in Britain. "Leather money," the statement and seal of some established firm on "leather" (parchment) by which it promised

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to pay so much silver or gold, is probably as old as coinage, or older. Coins may have had their first inception as decorations for the body, the need for decoration being probably as urgent with primitive man as it is with naked savages and wealthy dames to-day. From value as a decoration to value as a tool of exchange would be but a short step. Units of coined money, however, were probably evolved almost directly from units of commodity money.

The natural products of a community are first used as money units. But commodity units are inconvenient. In the use of commodity units, there is, of course, the difficulty of "coincidence" of wants, that important drawback to barter—each party having a thing to dispose of; but neither being able to provide what the other wants. But there are other difficulties, too, in the use of commodity units. There is the difficulty of defining quantity and quality. No one sheep, no one slave is exactly the same as another. Commodity units are not conveniently homogeneous.⁸ Metallic money, whether coined or not, because of its convenience, inevitably asserts itself sooner or later. At first, in all probability, the coined money in a particular place represents the article which has previously served as a commodity unit in that place.

Thus we have the tunny fish of Cyzicus, the sulphium plant of Cyrene, indicating staple prod-

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ucts, while the double ax of Tenedos, and the kettle of Creti, may not improbably be derived from manufactured articles for which the locality was highly celebrated.⁹

At the dawn of history, certainly, coined money was in full use. Abraham paid for the cave and field of Machpelah with "four hundred shekels of silver, current money with the merchants," money coined of the metal that formed the standard money of England until 1816. The most generally-accepted guess seems to be that the invention of money coinage—pieces of precious metal stamped and purporting to be of a certain weight—took place in Western Asia Minor, Lydia, about 600 B. C.¹⁰ Coined money may have been used in Babylonia before that time, but in all likelihood early currency was confined to metal ingots which required weighing at each transaction. Gold coins were struck by the Phenicians about 330 B. C. and were thereafter carried and popularized by these hardy seafarers throughout the Mediterranean world.

In point of time, the Egyptians were the first people to build a highly-developed civilization. Modern scholars agree that at about 3000 B. C., when the pyramids, the most majestic monuments ever built by man, were raised to stand "immutable and eternal in the desert," Egyptian civilization reached an astonishingly high

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level. Moreover, it can be traced back many more thousands of years before Christ. The Egyptian civilization, however, was an agricultural rather than a commercial civilization, and its economy was mainly a barter economy rather than a money or business economy. True, the Egyptians developed some of the industrial arts to great efficiency. They were expert metallurgists in metals other than iron. They could "smelt them, draw them into wire, beat them into sheets, cast them into molds, emboss, chase, engrave, inlay, and enamel them."¹¹ They were expert woodworkers, skilled irrigation engineers, admirable sculptors and architects in stone, acceptable draftsmen and painters, and adept weavers. But they used most of the products of their highly developed industrial arts for direct consumption rather than for trade.

Because of the geographical position of the country as situated on the highway from the East to Europe, Egypt was eventually forced into commerce, and, beginning about 600 B. C., regular trading-communication was established with Asia. Caravans brought precious woods, ivory, gold, wine, and oil into Egypt from Phenicia, Syria, and the Red Sea district, and carried back grain, linen, weapons, rings, and chains. Before the eyes of Joseph and his brethren, "behold, a company of Ishmaelites came from Gilead with their camels bearing spicery

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and balm and myrrh, going to carry it down to Egypt." However, only in this last period of Egyptian independence, from about 600 B. C. to 332 B. C., when the country was conquered by Alexander, did "commerce" and "trade" flourish. In these years, "the government, which formerly had discouraged trade, now permitted and encouraged it; Greek merchants came in considerable numbers to Egypt; and an active commerce sprang up."¹² Some, at least, of the characteristics of a business economy made their appearance late in this period. Contracts were entered into involving the future, rude accounts were kept, bills of exchange appeared, some Persian coins were circulated and exchanged for thirteen times their weight of silver, specialized merchandising "criers" (the ancestors of contemporary personal salesmen) sang out announcements of caravan and ship arrivals describing "in florid language the regions from which the articles came and the difficulties under which they were obtained."¹³ By and large, however, until its conquest, Egypt remained under a barter economy. The use of coined money was rare and was sharply confined to a limited number of traders. The fundamentals of business economy left untouched the economic position of the great mass of people.

In the valley of the twin rivers Tigris and Euphrates, too; there grew up in the days be-

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yond written record an intermixture of peoples whose economic activities are important to the story of business economy. On the lower Euphrates, the great city of Babylon became a center for a Semitic people. High up the Tigris, a mixed people termed Assyrians established the center of Nineveh. For many years reigning power "swayed between Nineveh and Babylon, and sometimes it was an Assyrian and sometimes a Babylonian who claimed to be 'king of the world,' " the world of Mesopotamia. In point of time, ancient Babylonia rose to importance first, some centuries after 3000 B. C. Fortune frowned, and in 745 B. C. Babylonia became subject to Assyria under Tiglath-Pileser II. Subject she remained until 625, when Nabopolassar joined the Medes and destroyed the Assyrian power. This later Babylonian Empire extended to 539 B. C., when the independent kingdom fell before the Persian sword. The Assyrians were preeminently a warlike, the Babylonians a commercial and luxury-loving people, so that it is the latter-named people that have a special interest for us.

The position of the city of Babylon on the lower Euphrates, near the Persian Gulf, made it a great market-place for the trade between India and eastern and western Asia with the nearest parts of Africa and Europe. From Ceylon came ivory, cinnamon and ebony; from

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Arabia myrrh and frankincense; from the islands in the Persian Gulf cotton, pearls and valuable timber; from northern India gold, dyes, jewels and fine wool. The wealth of Babylon became enormous and proverbial in large measure because of her own ingenious and splendid manufactures. Carpets, curtains and fine muslins, skilfully woven and brilliantly dyed, of elegant pattern and varied hue, were famous wherever luxury existed. Clay was abundant and craftsmen developed extraordinary skill in the ceramic arts.

In this Babylonian civilization, we certainly have the very definite beginnings of a business economy. Barter was still the method of trade for many, but by the latter part of the second Babylonian Empire the use of silver as a standard of value in trade was widespread. The silver was melted into ingots, which were called after the weights to which they corresponded, the lightest current weight being the shekel, the medium weight the minæ, and the heaviest the talent.¹⁴ Trade was well developed, and traders were classified. Different words were used for wholesaler and retailer. The former was a dealer who acted both as an exporter and as an importer. The latter was a dealer who made all his purchases from the wholesaler.

It is possible that the idea of interest first appeared in Babylonia, for the hiring of com-

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mercial capital was practised at rates of twenty per cent. or more. Written contracts, signed and witnessed, were frequently drawn by public scribes. The thumb-marks of the contracting parties were imbedded in the clay before the tablet contracts were baked in a public oven, so that falsification or forgery was almost impossible. Accounts were also inscribed and baked on clay tablets or bricks which were "proof against fire or the ravages of time." Since these tablets or bricks permitted of various methods of orderly arrangement, we may say that the Babylonians were the inventors of the contemporary loose-leaf ledger and the card-index system of accounts.¹⁵ The uncovered tablet-accounts of the Murashu Sons of Nippur present a fifty-year record (about 400-350 B. C.) of such business transactions as the leasing of canals, lands, and animals, the securing of the rights of irrigation, and the payment of taxes.¹⁶ The Babylonian business transactions were many and varied, and expressed in their records the essence of much of the later commercial law. One writer on ancient law goes so far as to assert that there is "no legal conception or legal transaction of the Roman law at the height of its development that does not find its counterpart in Babylon."¹⁷

However advanced the Babylonian civilization may have been in the sense of a developing busi-

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ness economy, if we seek in ancient times a people whose very existence depended upon making a business of "trade" and "commerce" we must look further. The Semitic merchants and seafaring folk who dwelt in the Phenician cities of Tyre, Sidon, Byblus, Berytus, Tripolis, and Ptolemais were the most thoroughly active commercial people of ancient times. Tyre was a powerful city as early as 1200 B. C., and long before the Greeks and the Romans arose upon the world's stage Phenician mariners were masters of the Mediterranean. What the Hebrew prophet Ezekiel sagely said of Tyre might have been said of all the Phenician cities: "Thou that dwellest at the entry of the sea, that art the merchant of the people unto many isles. . . . Thy borders are in the heart of the seas."

At the end of the Mediterranean Sea, half-way between the East and the West, to each of which Phenicia stretched out in trade; within easy reach of Egypt, Arabia, and Armenia; protected against destructive invasions by the Lebanon Mountains at her back; invited to navigation by the sea at her feet; and well supplied with timber for ships, this land enjoyed in her position a greater *geographical advantage* than did any other country of antiquity.¹³

It is little wonder that from the eleventh to the sixth centuries B. C., the trade of Tyre and of her sister-cities reached almost throughout the

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then-known world. These oft-called "pedlers of antiquity" exported wares and manufactures of their own; they imported and reexported products of every region east and south of their own land, products that had any value for the markets of the nations dwelling round the great central sea. So to Phenicia came the spices of Arabia; the ivory, ebony and cotton goods of India; linen-yarn and corn from Egypt; wool and wine from Damascus; embroideries from Babylon and Nineveh; horses and chariots from Armenia; copper from the shores of the Euxine Sea; lead and silver from Spain; tin from Cornwall. From Phenicia there went to foreign ports, not only these articles of food and of luxury, but the rich purple dyes made from the murex (a kind of shell-fish) of the Phenician coast, the famous hue of Tyre, with which were tinged the costly silken robes worn by ancient despots. From Sidon went the not less famous glass produced in part from fine white sand found near the headland called Mount Carmel. Gold, silver, bronze, and iron were known to the artisans and were worked. The Phenician drinking-cups of silver and of gold, the bracelets and necklaces of Tyre, and Sidon's works in brass were famous. Great as the Phenician workers were at the dyeing vat and loom, in working metals and in fabricating glass, they were also accomplished miners and the most skilled ship designers and

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builders in all early history. As mariners their renown was more lasting than their "trade" or "commerce," for their ships saw service either as mercenaries or in payment of tribute in the fleets of other countries, and Phœnician "lessons in seamanship" long outlived the commercial prominence of her cities.

The Phœnicians were the earliest people to inaugurate and execute a systematic plan of colonization. They established garrisoned trading posts in favored positions at the mouths of rivers, on islands, peninsulas, and projecting headlands—in Cyprus, on the islands of the *Ægean* Sea, on the northern coast of Africa, in Sicily, and in Spain. The extent of their colonization was indeed remarkable. The endurance of colonial allegiance, however, was limited, for the colonies were held to the motherland by nothing but a commercial bond. Phœnicia herself was but a series of cities, each with an independent government, so that she forced no political bonds upon her colonies. By far the most renowned of all Phœnician colonies—famous in poetry for Dido's hapless love and hapless death, in history for Hannibal's heroic hate of Rome and warlike skill—was Carthage, established in the center of the northern coast of Africa about 850 B. C. and destined by 500 B. C. to incorporate the cities of Phœnicia and the colonies of the West into the commercial Carthaginian State.

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Among such a people we should certainly expect to find many of the institutions and much of the technique of an infant business economy. But such expectations have a disappointing basis in the available written record. Phenicia was so essentially commercial that she neglected letters, and as a result we are dependent upon her enemies for her history. It is reasonably certain that during the period of the greatest Phœnician prosperity a barter economy completely prevailed. The caravans and the ships carried goods of small value in one region to another land where they were highly prized, and goods acquired in exchange were taken to still other places where they were valued highly. "Incredible profits" were made by repeated exchanges of goods for goods. Gold coins, as has been stated, were not struck by the Phœnicians until 330 B. C., long after the decline of the commercial supremacy of Tyre and Sidon. The use of coined money in exchange was popularized by the Phœnician sailors, but not until Phœnician ascendancy gave way to that of Carthage. To what extent the Phœnicians accepted and protected the institution of "private property" by law, to what extent they used bills of exchange, to what extent they kept accounts, to what extent they carried on banking transactions—all these are matters of conjecture. Most historians are inclined to depict these "missionaries of

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civilization" as imitators, borrowers, and disseminators. If this picture is accurate, the Phenicians were mere adapters and teachers of the trading techniques evolved in other lands by preceding and contemporary peoples. At all events, and in spite of the preoccupation with "commerce" and "trade" of the majority of the population, the available record does not indicate the existence of a strict business economy in Phenicia.

Like Phenicia, Carthage was essentially a "trading" and maritime state. Like Phenicia, Carthage left few records that are valuable to the history of business economy. Like Phenicia, Carthage supported herself by the trade and tribute of an extensive colonial empire. Unlike Phenicia, however, Carthage enforced her power upon her colonies and aggressively exploited them. In the city itself, manufacturing seems to have been sharply limited. There was, instead, a lively interest in the agricultural possibilities of northern Africa, and farming was "in high favor and was engaged in by all classes." What is probably the earliest formal treatise on farming is one of the few pieces of Carthaginian writing that have been preserved. In the later period of Carthaginian ascendancy there appears to have been a widespread use of credit currency in the form of "leather money," not only among the specialized traders, but among

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the majority of the city's population. This "leather money" seems to have consisted of almost any material, the size and shape of a coin, wrapped in leather and sealed and stamped by the government.¹⁹ It circulated on the credit of the government, and people reckoned their wealth in it.²⁰ In this connection it should be stated that fabricating various forms of leather and making many kinds of stamped and embossed leather articles was Carthage's chief manufacturing interest.

By 300 B. C., bills of exchange and letters of credit apparently were in use, and evidently a certain amount of lending on ships as security was practised. As early as 450 B. C. the Carthaginians came into conflict with the Greek colonies. Some of the motley Carthaginian colonies refused tribute. Then came Rome and the Punic Wars. In 202 B. C., Carthage became a subject ally of Rome. Finally, in 146 B. C., Carthage's doom was pronounced when Rome decreed that the city should be destroyed and that any new city built within her territory should be located at least ten miles from the sea. "Carthage had been 'queen of the waters,' but her glory was ended by this Roman edict."²¹

Mention of the Greeks brings before us another people who were for a time the leading merchants of the great inland sea of antiquity. Peninsular Greece was a "land of shores." It

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is said that no country in the world of an equal area presents so many islands, bays, peninsulas, and harbors. No point is more than a few miles from the coast, and the land extends no farther than the "sea breeze." Moreover, every island in the Greek Sea is in plain sight either of the mainland or of another island. It is little wonder that the sea and its influence are everywhere observed in Grecian history. The Greeks regarded the sea as a "highway," and the islands of the *Ægean* as "stepping stones" to navigation. Very early, then, probably about 1000 B. c., the Greeks became a maritime people. And yet for some time they did not take advantage of their opportunities and were content to leave commerce and trading in the hands of the Phenicians. Little by little, however, the Greeks supplanted the Phenicians as Greek colonization grew.

The Greek colonies reached to nearly all the shores of the Mediterranean and its numerous branches. Cicero termed these settlements a "Greek fringe." The colonists did not go far inland, and everywhere they came in contact with the Phenicians, who had preceded them. In some cases their predecessors were expelled, in others the Greeks withdrew.²

This process of colonization continued until about 600 B. c. and all the while the Greeks were ready pupils of the Phenicians. Greek ship-

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building progressed and Greek sailors gradually ousted the Phenicians as carriers of wares. At home the Greeks learned to practise agriculture, and the textile and metal manufactures. They began to produce goods for export, not only to the colonies but to other markets; they "emancipated themselves from their former dependence on Oriental manufactures and developed the clay, bronze, and woolen industries to a point not dreamed of before." ²³

For forty years, from 625 B. C. to 585 B. C., Corinth was undoubtedly the leading commercial city in Greece. Located on the narrow isthmus which controlled the passage by land to the Peloponnesus, Corinth was sometimes termed "the eye of Greece," or because of the harbor at each side of the peninsula with a low elevation between was called "the bridge of the seas." Here it was that light ships were dragged over the isthmus on rollers and that heavy ships "broke cargo" (unloaded their goods to be carried across and reshipped on the other side) in order that merchant sailors might avoid the dreaded voyage around the rocky tip of the Peloponnesus. Industrially, Corinth was active and carried on manufactures in leather, pottery, textiles, and metals. The bronze work of Corinth was especially notable and was exported over the ancient world.

From 585 B. C. to 400 B. C. Athens rose to first

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place among the Greek cities and maintained its supremacy until subjugated by Macedonia under Philip about 338 B. C. Athenian merchant-navigators conducted a large carrying trade for other peoples. In fact, perhaps a majority of the exports were foreign wares which were merely transhipped in the Piræus, the Athenian port, which was connected with the city by walls. The native exports of Athens were silver and other metals from the mines near the city, metal wares manufactured from copper and bronze, pottery, and objects of art. The imports were grains, wine, oil, and spices, wool, leather, fish, and articles of luxury. Wheat, in fact, "was imported, stored and sold by the State; nominal prices only were charged for grain, and at times it was given away in what was termed the 'dole.' "

The Greeks were not primarily an industrial people. Manufacturing was sharply limited and confined to articles of fine esthetic craftsmanship. The Grecian philosophy of life found small place for industrial impulses. Labor was degraded. The artisan was less respected than the farmer. Aristotle's theories taught that leisure was the "mother of culture," and as a consequence the citizen who lived in idleness was often held in high regard. Slavery was an accepted economic institution, and the slaves made

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possible existent agriculture, manufacture and trade.

And yet while the Grecian civilization in its economic particulars was not primarily industrial and appears to have been commercial only in necessary degree, many of the elements of a business economy are recorded in it. In the early period, trade, of course, was carried on by barter. Shortly after 600 B. C., when the art of coinage was begun in Lydia, coinage was introduced into Greece, where it flourished in high perfection. The silver mines of Laurium supplied Athens with metal for coinage, and silver was used for the coins of high denomination. The commonest Greek coin was ultimately the silver *stater* (shekel) or *didrachmon* of 135 grains. Copper was used to some extent for coins of lower denominations, tho the Greek silver *drachma* of about 65 grains was also current. Gold was not common in Grecian coinage until the last of the fourth century B. C. The very earliest Greek coins were probably struck at Ægina and for purposes of foreign rather than of internal trade. Yet coins soon found their way into the transactions of ordinary life, and by the time of Solon (600 B. C.), "a money economy had almost superseded the natural economy of Homeric Greece."²⁴

Two types of Grecian coinage developed—the Pheidonian coinage, which circulated in the

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south and west, and the Eubœan coinage, which became somewhat standard at Athens and was used chiefly in the central and eastern sections. This dissimilarity in coinage made bankers necessary. The early Græcian bankers were called "table merchants" because they carried on their money-changing and money-testing at a table. Later, they expanded their operations to include the custody of money and the lending of money. In Solon's time, bankers made advances of silver to farming peasants on the security of the debtor's land. Moreover, they shared in the profits of trading ventures by lending money on "bottomry," on the security of a given vessel or cargo, for the voyage out or back or both. Interest rates were excessive, sometimes as high as forty-eight per cent. on "bottomry," and creditors were relentless.²⁵ Indeed, much of Solon's celebrated legislation was directed against the money-lenders and was intended to relieve the suffering of debtor citizens.

As early as 600 B. C. there existed an ever-increasing group of wealthy capitalists. Private capital was employed in every direction.

At first sight it might seem as if the field for private enterprise was rather limited, since the collectivist ideal of State-ownership was realized in Athens to a considerable extent; the State was the proprietor of the land, the mines, the harbors, and most of the means of production. Still,

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the actual conduct of business was closely parallel to that with which we are familiar, since all public undertakings were let out on stated payments for longer or shorter periods to capitalists, who worked them for the time to their own advantage. Thus, tho the resources of production were not appropriated by private persons, they were regularly administered by private capitalists who farmed them out. . . .

. . . Some of the operations which were thus carried on by private capital were so large that no individual could undertake them, and they were let to partnerships or associations of moneyed men. Such were the companies which undertook the farming of the various taxes. The collection of the harbor dues and the customs on imports, as well as the taxes on resident aliens, were all leased in this fashion.²⁹

The principle of joint-stock association was apparently well understood by the Greeks, for it is frequently mentioned in connection with ship-owning, mining, and other commercial ventures.

Greek merchants were separated rather sharply into the two common classes, wholesalers and retailers. The wholesalers were the importers and usually, too, the ship-owners. They either commanded the ships themselves or commissioned others to command for them. The retailers were more true to the present-day type of individual retailer in that they confined "their operations to one city, and sold wares either in small shops, or in the booths of the

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market, which was a fixed institution in most Greek cities." In the larger cities, special markets for particular goods were fixed for known spots and certain times. While locations were definite, many retailers did not hesitate to come out of their shops to hawk their goods about the streets or to hire a public crier of carrying voice.²⁷ Advertising in the form of shop signboards was also in use. The merchandising methods of *caveat emptor* (let the buyer beware) were typical, for false weights and short-changing were common. Water was put into wine and the poulterers blew air under the skin of the fowls to make them appear fatter.²⁸

Toward the close of the fourth century B. C., the Greek city-states weakened, declined, and came under the domination of the Macedonians, Philip and Alexander. The latter's conquests carried Greek learning and Greek economic customs to the East and brought back knowledge of the Eastern world and its wares. Altho a conquering military imperialist, Alexander was fully alive to the importance of organizing centers of trade in any process of building an empire, and he founded some seventy new cities to be centers of commerce. He was indeed aware that the resources of a military empire can be obtained not only from careful husbandry but by promoting industry and trade. However, in spite of his strictly commercial efforts and in

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spite of the introduction of coinage in the lands east of the Mediterranean by means of his conquering and exploring expeditions, significant progress in the evolution of business economy was delayed until the establishment of the Roman Empire.

The nominal date for the foundation of Rome is 753 B. C., when the Latin town of Alba Longa seems to have been established on the south bank of the river Tiber, about fifteen miles from the sea. A union was made with the people of a Sabine town called Quirium or Curium which had been established on a neighboring hill, and with the Etruscans who had located on the north side of the Tiber. The result was Rome. The government of this union was probably a monarchy until about 500 B. C., when began a long series of struggles between the Patricians and the Plebeians. This internal dissension continued until the passage of the Licinian laws in 366 B. C., and the Publilian laws in 339 B. C., measures which established the Roman constitution as a moderate democracy. The energies of Rome were freed for conquest, and the way was opened for the Republic to become something more than a city-state. Under the aggressive leadership of her Senate of three hundred, Rome ruled all of Italy by 275 B. C., and had annexed most of the Mediterranean basin by 150 B. C. Then came revolts, assassinations, and massacres—revolts of

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the Italians, revolts of the provincials—which persisted until the exhausted combatants welcomed the strong rule of one man, Augustus Cæsar, and the transition from Republic to Empire (31 B. C.-14 A. D.). Under the Empire, conquests continued until 117 A. D., when the limit seems to have been reached. In the third century A. D. the Empire began to break up, and the city itself fell before Alaric in 410 A. D. and before the Vandals again in 455 A. D.

The Romans, like the Greeks, were not primarily an industrial or a commercial people. They were “warriors and pillagers” during the period of the Republic and “administrators and builders” during the period of the Empire. They were never artisans and traders in any important degree. Their great contribution was *pax Romana*, Roman peace, which continued throughout the Empire and which meant respect for property and the rights of contract as well as an opportunity for commercial development and an enlarged knowledge of the goods of the world.

In their early history, the Romans devoted themselves to agriculture and learned the artisan trades from the Etruscans. With the growth of the Empire, agriculture was neglected and Rome became dependent upon outside regions for her food supply. Manufactured goods, too, were imported into Rome—not sent in quantity thence to other lands. There were plenty of

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artisan-producers on a small scale, but they merely supplied the home demand. Goldsmiths, shoemakers, sandal-makers, weavers, and dyers carried on a considerable business, but their products were needed by the inhabitants of Italy—even by the people of the Roman city. Necessities and luxuries came to Rome as imports to be paid for by money-tribute exacted from the provinces. In the early days, cattle and other forms of goods served as money. Two hundred or more years after the founding of Rome, fines were imposed in cattle and sheep. Still later, provision was made for commuting fines in current money termed *asses*, bronze or copper coins. About 269 B. C., Rome first issued the silver *denarius*, which became legal tender everywhere. By the first century B. C. gold coinage became more common, the coins of small denomination were still struck from silver and copper.²⁹

The Roman citizen was an adept bookkeeper and made careful entries of all his transactions. He kept his accounts in a book called "The Book of the Received and the Book of the Paid Away," using two columns for the record, corresponding roughly to the debit and credit placement of the present day. Roman weights and measures were standardized and were used for all official dealings. The provinces were allowed certain privileges in the use of local weights and

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measures, but these were always placed at a fixed ratio to the Roman standard.

Banking combined money-changing and money-lending. Rome was a gathering-place for people from all parts of the then-known world, and the presence of different forms of money provided the money-changers with plenty of activity in reducing the varied coins to a common standard. These banking negotiators accepted deposits, managed checking accounts, sold drafts and bills of exchange on distant cities, dealt in securities, carried accounts for the politicians, and lent money to farmers, merchants, and manufacturers.³⁰ Interest rates became so excessive that the government interfered, and in 51 B. C. twelve per cent. was made the legal rate by the Senate, altho much higher rates than twelve per cent. continued to prevail in the provinces. In the third and second centuries the publicans were the most prominent of capitalists, since they dealt with the State. They collected the tribute of the provinces on a contract basis and found opportunities for such extortionate profits that the word "publican" was hated by the populace and became a by-word among the Jews. They gathered the revenue from public pastures and farmed the customs. As contractors they worked the mines of Spain and the quarries of every province. They built the highways, harbors, and basilicas.

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As the Roman State had no administrative agencies for executing such projects directly, it let them at auction to companies of promoters headed by the Morgans, Vanderbilts, and Goulds of that period—masterful capitalists whose augmenting riches and luxurious lives shocked stern old patricians drawing meager revenues from estates tilled by slaves.²¹

Rome was the monetary center of the world in the first century B. C. The associations of capitalists were carefully organized as partnerships or joint-stock companies managed on behalf of the shareholders by *participes*. The Forum, with its *basilicæ*, was crowded with *publicani* and *negotiatores* haggling and closing speculative transactions in an immense stock exchange. Under the Empire the opportunities for speculators and contractors were gradually reduced and their operations were more systematically supervised. The capitalists were mercilessly squeezed as rascals whom it "was fair to pilage when opportunity arose." The frightful debasement of the currency, by which emperor after emperor attempted to obtain the means of paying his troops, paralyzed business so that accumulated wealth was hoarded rather than invested and private enterprise declined. It became necessary for the State to make increased efforts to organize industrial and commercial undertakings. The pressure of an expensive, excessive, and inefficient administration broke the

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back of the money economy. Indeed, it can be safely said that "the ruin of the provinces in republican times had been due to the operations of private capitalists; in the Roman Empire it was at least accelerated and accentuated by the pressure of public burdens." ³²

Roman merchants were classed as wholesalers and retailers. The latter were mostly freed slaves, aliens, and members of the lowest classes. They were looked upon with contempt, debarred from the legions, and assigned to the protection of the god of thieves. Cicero expressed the common Roman prejudice when he said that the same people should not be the commanders of the world and the carriers of the world, and that retail trade was sordid and could thrive only by lying. In the early days of Rome the Forum was the principal market-place, but it eventually became a monetary and speculative exchange. One by one the markets were excluded from the Forum. The objectionable ones left first, the fish market, then the cattle market, and so on. In the later Empire fine shops were to be found on the Campus Martius, and markets grouped themselves in definite places to such an extent that streets were named for particular trades, the grain merchants' street, the belt-makers' street, the sandal-makers' street, and others. Some merchants, it is certain, made very definite use of signboard advertising, using sym-

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bols to designate particular kinds of shops, such as the sign of the bush for the wine shop, the painted cow for the dairyman, and the mule turning a mill for the bakery. Here, too, we find the beginnings of copy-writing painted on walls in black and red. One such advertisement ran as follows:

IN THE ARRIAN
POLLIAN BLOCK OF HOUSES
THE PROPERTY OF CN ALIFUS NIGIDIUS
SENIOR
ARE TO BE LET FROM THE FIRST IDES OF
JULY
SHOPS WITH THEIR BOWERS
AND GENTLEMEN'S APARTMENTS
THE HIRER MUST APPLY TO THE SLAVE
OF CN ALIFUS NIGIDIUS SENIOR "

With the decline of the Roman rule, the pecuniary substructure began to go to pieces. The Gothie hordes poured out of the wilds of northern and northeastern Europe. The "Roman Peace" was ended and darkness closed down upon the Western world. Pillage became more profitable than commerce or industry; "petty warfare became a chronic misery; the admirable Roman roads fell into disrepair; commerce shrank to a dribble of luxuries for the powerful and a local exchange of indispensables like iron, salt, and tar for the commonalty; manufacturing for a wide market almost disappeared; coinage became scanty, irregular and incredibly

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confused.”³⁴ Rome had run its tether. By 476 A. D., even the shadow of authority had passed from the Roman Emperor of the West to the eastern capital, Constantinople. Business economy reverted to furtive bartering and the European world passed into the “Dark Ages.”

III

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THE STORY of economy in the "Middle Ages" covers a period of about one thousand years, extending from the close of the fifth to the end of the fifteenth century of the Christian Era. The early centuries in this span are often called the "Dark Ages" because they were almost barren of any achievements making for the permanent progress of mankind. When, in the fifth century, the Roman Empire vanished from the West and the barbarians entered into possession, for a time, progress ceased. Society became rough and turbulent. With each successive wave of barbarian invasion, confusion and disorder deepened. Economic conditions returned to the primitive. Commerce was practically abandoned. The light of the Ancient World of the West was extinguished.

Quite different, however, is the chronicle of the Byzantine Empire of the East. Byzantium, refounded as Constantinople and made the capital of the East by Constantine (326-333 A. D.), presented a bulwark which successfully resisted the shocks that shattered the civilization of the West. For more than a thousand years, this hardy city held its own as the protector of

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Romano-Hellenic civilization. As each century came, a new horde of invaders besieged. In the fourth century, immediately after its establishment, Constantinople was threatened by the Goths; in the fifth, by Huns and Vandals; in the sixth, by Slavs; in the seventh, by Arabs and Persians; in the eighth and ninth, by Magyars, Bulgars and Russians. Not till 1453, however, did it utterly succumb.¹

Here the money-economy suffered no such eclipse as in western Europe. "Gold coinage, a banking system, manufacturing on a considerable scale, a commerce which tapped the Orient on one side and the western Mediterranean on the other side, were maintained and in some respects elaborated."² Justinian (527-565 A. D.), probably the greatest of the emperors of the Eastern Empire, was fully alive to the importance of business. Care for commerce and trade is one of the most important features of his reign. His conquests reestablished communication and commerce with the western Mediterranean, and he was active in promoting trade both in the East and the West. He established *commercarii*, trade depots, for the collection of customs and the purchase of raw silk from the barbarians.³ Indeed, he introduced on a large scale the practise of selling monopolies or exclusive rights to engage in some special form of business enterprise, and used these revenues to

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restore and to construct magnificent public buildings. His monuments, churches, and parks astounded visitors from the West and testified to the skill of his architects and the lavishness of his taste.

The contribution of the Byzantine Empire is highly important because it is a contribution of conservation without which the reestablishment of business economy in western and northern Europe would have been immeasurably retarded and delayed. Constantinople preserved the essential structure of business economy, so that, "as order was gradually restored in Spain and Italy, in France and England, the new peoples might recover what their forefathers had destroyed when they devastated the Roman provinces." ⁴

What the Byzantines conserved, the Saracens passed on to the new peoples of the West. When Europe groped in the darkness, the light of learning and of business came through the Saracens. These roving conquerors were those Arabs who accepted Islam, the followers of Mohammed (born about 570 A. D.). This "dreamer of the desert" began his prophetic séances and religious teaching when he was about forty years of age. Slowly but surely he aroused the seminomadic tribes of Arabia, and stimulated in them a religious zeal to "win the joys of Paradise by the subjugation and conversion of the

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earth." Very soon the new religion began to take on the ruthless and sordid features of conquest and tribute. In 629, Mohammed captured the holy city, Meeea, completed the conquest of Arabia, and, after calling on the King of Persia and the Byzantine Emperor to embrace Islamism, prepared to march beyond the borders of Arabia. At this juncture he died, cut off by a fever at Medina in 632 A. D.

The leaders who came after Mohammed, called his Caliphs or Successors, continued his campaign of conquest. Their success was rapid. By 639 all Syria and Egypt had been conquered. Persia soon fell an easy prey. In Africa, however, the Moslems met a long and stout resistance. Carthage did not fall until 697-698 and the North African conquest was not complete until 709. In 711-713, the Saracens crossed over into Spain from Mauritania, the modern Morocco, and overthrew the Visigoths. As early as 669, the Moslems attacked Constantinople but were repulsed. Their efforts to enter Europe by the east continued for many years afterward, but success did not come to them in or beyond the west of Asia Minor. The stronghold of Saracen power was in Egypt, Spain, and about the north of the Arabian desert. In Spain, the Moslem rule came to its height about the middle of the tenth century. The Moors, natives of North Africa, were summoned by the Saracens to aid

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against the advancing power of the Christians. About 1036 the Moors, in turn, overthrew the caliphate of Cordoba and the real Moorish dominion in southern Spain began. The Saracens did not adapt themselves to the people among whom they lived. Their religion made them exclusive, and when the fanaticism of their religious conquest had passed, their power declined. In the East, there came a gradual breaking-up of Saracen power, a separation into the earlier tribal organizations. In Spain, the Moors were driven to the south in 1238 and were conquered in 1491.

It was no race of rude and savage vandals that secured such a foothold in the southern part of the Continent. The Arabs liked and practised commerce long before the rise of Mohammed. The armies prepared the way for caravans in Asia and Africa, and Moslem merchants traveled by roads in every direction. Arabian sailors voyaged over the Red Sea and the Sea of Oman, penetrating as far as Hindustan and Indo-China. Ships from Alexandria and Syria thronged the harbors of Almeria and other Spanish ports. The harbors of Tripoli, Tunis, and Tangiers inherited the fortunes of vandal Carthage. Egypt, wisely governed, preserved her old fertility. Bagdad rivaled Constantinople as the market and metropolis of the world. There the Caliphs lived in all the luxury of the

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Arabian Nights. Palaces ornamented with marble columns and rich carpets manufactured in the East, superb gardens refreshed by marble fountains falling into marble basins, a profusion of silken materials from India, an abundance of precious stones, every refinement of luxury and magnificence—this scarcely describes the pomp of the Caliphs, who lavished thus the tributes levied from a hundred races.

We hear of the Market of the Perfumers, the Market of the Money-Changers, the Straw Merchants' Bridge, the Fief of the Carpet-Spreaders, the Hay Market, the Gate of the Horse Market, the Tanners' Yard, the Four Markets, the Upper Barley Gate, the Silk House, the Slaves' Barracks, the Road of the Cages, the Fullers' Road, the Gatehouse of the Date Market, the Needle-Makers' Wharf, the Archway of the Armorers, the Cotton Market. In one part of the city Chinese goods were for sale, in another the famous Attabi stuffs (whence our expression "tabby cat"), woven in variegated colors of a mixture of silk and cotton. Here paper was manufactured of rags at a time when the West had lost the papyrus of antiquity and was forced to write all its manuscripts upon parchment made of sheepskin. Paper was originally discovered by the Chinese and was introduced among the Arabs in the eighth century, when factories were established at Samarkand and Bagdad. In Bagdad, too, was a mill with a hundred millstones, said to have been built for an early Caliph by a Byzantine ambassador possessed of engineering

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skill. There were lanes lined with great warehouses and streets crowded with shops and bazaars—twenty-four shops of the weavers of palm baskets, forty-three shops of perfume distillers, sixteen shops of drawers of golden wire, and over a hundred booksellers' establishments.⁶

In scarcely less degree, the Saracens carried their enterprise to Spain. They introduced rice, cotton, the sugar-cane, and the date-palm into Spain. Their ingenuity counteracted the dryness of the climate by skilful irrigation, and aqueducts conveyed the water preserved in artificial ponds. They filled the Spanish towns with manufactures of silk, cotton, and cloth. They taught the use of indigo and cochineal; they instructed in the art of fashioning porcelain-colored earthenware. They made linen paper and spread the knowledge of making paper from cotton and silk. The leathers of Cordoba and the well-tempered weapons of Toledo were famous. Spain maintained a large commerce, and the Caliphs of Cordoba had at least a thousand ships in their fleets. In fact, the whole economic character of Spain was changed and developed by the Saracen conquest, and Spain began to act as an intermediary for the instruction of other regions. The Saracen invasion was one of the means by which the East and the influence of its business economy came to the darkened West.

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In the Teutonic world of the Franks—France and Germany—there is little record of significant commercial activity or business economy until the reign of Karl the Great, or Charlemagne (768-814). As was the case with all the rulers of the age, this early German soldier-king devoted much of his time and energy to war and conquest. In 773 he marched into Italy at the request of the pope, made war upon the advancing Lombards, deposed their king, and had himself crowned king of the Lombards in 774. In Spain, he took from the Saracens the territory as far as the Ebro (778). He proceeded to Rome. On Christmas Day, 800 A.D., as Charlemagne knelt on the steps of the altar at divine service in the basilica of St. Peter, Pope Leo III placed upon his brow the diadem of the Cæsars, and saluted him as "Emperor of the West" by the title of Charles I, Cæsar Augustus. His conquests continued as he fought bitterly against the Bavarians, the Saxons, the Avars, the Danes, and the Slavs. His empire finally extended over what is now the northeast of Spain, the whole of France and of northern and central Germany (except eastern Prussia), much of Austria, and all northern and central Italy, with the island of Corsica.

Charlemagne, however, was more than a conqueror. He first consolidated Christianity into a political form proceeding from itself, and he

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established the principle of hereditary monarchy. He actively promoted agriculture, manufactures, and commerce. Routes of trade were reestablished and fleets were stationed at strategic points as a protection for commerce. The Roman roads, bridges and aqueducts were put into repair. A great canal was built between the Rhine and the Danube. Charlemagne improved agriculture by requiring his subjects to plant various kinds of fruit trees. His capitulary, *De villis*, goes into minute details of farm life such as the care of bees and poultry, the dairy, and the making of wine.⁶ He encouraged the accurate keeping of accounts and a general taking of stock at the beginning of every new year. He cultivated friendly relations with distant rulers for purposes of trade and in 796 A.D. signed what is certainly one of the earliest commercial treaties, the treaty with Offa, king of Mercia. In this document, Charles I promised protection to English traders coming from Mercia. "We also will," says Charlemagne, "that merchants shall have lawful protection in our kingdom according to our command; and if they be in any place unjustly aggrieved, let them apply to us or our judges, and we shall take care that ample justice be done them."⁷ Steps were taken, too, toward the reformation of the standards of weights and measures. The emperor restored to the crown the exclusive right of coining money,

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and made an effort to establish a general system of currency based upon the pound of silver as a unit, the unit of currency thus corresponding to the unit of weight. This pound, or *libra*, gave its name to the English £ sterling and the French *livre*, and contained originally the equivalent of a pound weight of silver. In fact, Charlemagne's system of coinage was introduced in all western European countries, including England and Scotland.

Charles founded an empire which his successors could not rule, and following his death (814) its dissolution was rapid. But tho it fell, its effects remained. Charlemagne created Germany and bequeathed to its ruler the title of Roman emperor, thus uniting the Roman and the Teuton, "the memories and the civilization of the South and the fresh energy of the North." He disciplined the new populations of his empire and forced them to adopt agricultural life; and throughout central Europe he planted bishoprics and abbeys that became the distributing centers of knowledge. His powerful hands kneaded together the materials of modern Europe. His empire was dismembered by the treaty of Verdun (843), but the pieces formed nations. The treaty recognized an East Frankish and a West Frankish kingdom. The former became Germany; the latter, France. Italy, too,

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was recognized, and here we have the beginnings of modern nations.

As the Frankish empire disintegrated, central government and common action ceased to exist. The repeated incursions of Northmen, Magyars, and Saracens broke down communications and left each locality in isolation to look after itself. Other than political bonds had to be found to hold society together and to insure each individual some sort of order and protection. These bonds were discovered in personal relations between men and in dependent land tenure, in that strange collection of rules and practises which is commonly called feudalism. The word *feudum*, from which "feudalism" is derived, is not found in written documents until the time of Charles the Fat (884-887), but the system was firmly established long before. In fact, broadly speaking, feudalism is not peculiar to medieval Europe "but is found, in its essential features, wherever powers of government are exercised by landowners in virtue of their occupation of land."⁸ Ancient Egypt and modern Japan have experienced similar developments. Nevertheless, the historic feudalism is that which grew up after the barbarian invasions, and which began to flourish in the ninth and tenth centuries.

The system itself is a kind of combination of

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the old Roman method of granting land (by the State and not by a lord) to men in return for military service, and of the Teutonic custom of men following a chief as their personal lord, and standing in close personal relation to him. The transformation of the fragmentary elements of feudalism into a complicated institution was slow and gradual. The process was somewhat as follows:

Gradually, in all parts of the West, kings came to recognize their impotence to dispense justice and organize the public security. Extensive grants of immunity from the jurisdiction of the royal officers tended to sever the connection between the king's palace and the outlying districts. A further step towards feudalism was taken when kings began to acquiesce in the principle that the landowner, as such, had a right to establish a court and exercise governmental rights over his tenants. The landowner, on his part, ceased to be content with the *benefice* which gave him no more than a life interest, without power of alienation. The king was compelled to recognize the principle of hereditary succession. Finally, the discovery that heavily armed cavalry was indispensable for success in warfare led to the endowment of *knights* with sufficient land to furnish the means for their equipment.

Feudalism thus came into existence as a military measure to organize local defense; economically, to safeguard cultivation of the soil; and politically, to provide machinery for local administration of justice.

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The central institution of feudalism is the *fief*, which is usually, but not in every case, land. The lord might grant to his vassal a certain lucrative office, or some definite ecclesiastical revenue, for which the recipient would engage to perform certain services. Normally, the fief was an estate of land large enough to support at least one armed knight and his war horse. At first these grants were for life only, then for two or three lives, and finally they became hereditary. A new heir was called upon to pay a sum equivalent to one year's revenue of the estate, as a *relief* on succession to the fief. The *relief* was a token of the lord's ultimate ownership of the land. The fief could not be *alienated*, willed, given, or sold to an outsider in the event of the absence of an heir. It reverted or *escheated* to the granting lord. The recipient of a fief entered into a personal bond with the granting lord, promising homage, fealty, and general or specific service. These services included military and agricultural services in the main, but at times included lighting the lord's way to bed with a candle, "counting his chessmen on Christmas Day," or even supporting his noble head during a rough passage on the Sea or the Channel. The *serfs* were the peasants who were sold or transferred with the land upon which they labored. They were slaves to the soil and inherited their status. A serf succeeded to the

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land of his father. Besides attempting to raise a scanty crop on his own land for his own sustenance, the serf was required to work the land of his lord, sometimes as many as four days a week. Even of his own wheat and oats and barley, the serf was obliged to hand over a part to his lord. The *villa* was the name for a large estate. In England the Norman word *manor* came to be used in the same meaning. The manor was self-sufficient: it constituted a small world by itself. It contained a manor house, residences for those who worked on the lands outside, a few homes for such artizans as smiths and carpenters, a mill, and a church. It was an economic, judicial, and religious unit.

Under feudalism, the State split up into tiny pieces. Europe was covered with a network of fiefs. In France alone, during the tenth century, the number of little governments of this kind is supposed to have exceeded 10,000.¹⁰ Certainly, feudalism existed in its most highly developed form in the north and east of France, where by the fourteenth century the rule "no land without a lord" was somewhat sharply applied. In southern France, many landowners recognized no feudal overlords. In Normandy, serfdom disappeared early. In England, feudalism was prevalent before the Norman Conquest and was introduced in a more developed form by William the Conqueror.

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The progress of business or money economy under such a system was definitely retarded and almost halted. The ideal of the manor was self-sufficiency; estate management for subsistence, not for revenue.

With regard to the main product, food staples, the result was an alternation of *waste* and *want*. A good year brought a surplus for which there was no market outside the village, and which could not be worked up inside for lack of manufacturing skill and implements. A bad harvest, on the other hand, meant serious suffering, because there was no opportunity to buy food supplies outside the manor and bring them to it. Nearly every year was marked by a famine in one part or another of a country, and famine was often followed by pestilence.¹¹

The rapid decay of Charlemagne's empire had destroyed the uniformity of his system of coinage. Many debasements of currency occurred. Local issues were coined by feudal lords in hundreds of places. In England, for example, under the disorderly reign of Stephen, nearly every baron had a mint in his castle.¹² Depreciations became perfectly reckless. Trading was mostly by barter until the fourteenth century. At every point, feudalism cramped and confined the development of a business economy. Payment in services, goods, or fiefs was an essential part of the feudal relation.

Strangely enough, the first glimmer of a de-

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veloping business economy came to the western world in the series of religious expeditions known as the Crusades during the eleventh, twelfth, and thirteenth centuries. The word crusade means "war of the cross," from the French *croisade* (Provençal *crozada*, from *croz*; Latin *crux*, a cross). These spectacular expeditions had as their objects the recovery of the Holy Land—Palestine—from the Saracens and the Turks. From the fourth century on, religious pilgrimages to Jerusalem had been common, and for a long time the fact that the sepulcher of Christ, in particular, was in the possession of infidels had been felt as a reproach to Christendom. When the Turks succeeded the Saracens in power in Jerusalem, both the native Christians and the pilgrims were persecuted. Stories of these persecutions were carried to and exaggerated in the West. At the end of the year 1095 Pope Urban II summoned a great council at Clermont, in the south of France, a council which was attended by cardinals, prelates, and a great group of feudal lords. The Pope addressed the assembly in a stirring speech which found an instant response. When from the thousands of hearers the cry arose, "God wills it!" the speaker exhorted: "It is indeed the will of God, and let this memorable word be forever adopted as your cry of battle to animate the devotion and courage of the champions of Christ.

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His cross is the symbol of your salvation; wear it, a red, a bloody cross, as an external mark on your breast or shoulders, as a pledge of your sacred and irrevocable engagement." So, in 1096, the followers of the bloody cross, probably a hundred thousand strong, launched their first attack on the Moslem.

There were eight principal and many minor crusades from 1096 to 1270. The early crusaders went overland across Europe because of the inadequacy of shipping in 1096. Later crusades followed the sea route, and the Italians profited handsomely as contractors for transportation and supplies. In fact, the fourth crusade (about 1200) was used by the Venetians to capture Constantinople. Probably the improvident feudal knights could not pay the Venetian transportation charges, so Venice forced them as debtors to aid her in extending her commercial territory. In the various crusades it has been estimated that a million men took part. The expeditions appealed to the devout, the adventurous, the romantic, the mercenary, and the curious. Moreover, the crusades offered an escape from feudal servitude, for the Church induced enlistments by interfering with feudal contracts, freeing men from the payment of interest and from the power of their feudal lords.¹³ In the later crusades, such material privileges as permission to mortgage lands without

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the consent of the lords, and protection and subsistence for families left behind, were offered to induce men to take the cross.¹⁴

The effect of the crusades upon feudalism and upon the revival of business-like industry and commerce was tremendous. Coined money came to be increasingly used. Goods were far too bulky to carry on pilgrimages, and so those who followed the cross undertook to convert their wealth into money. Once more a money-economy began to succeed a system of barter. Gradually the change from the payment of feudal dues in services to payment in money-taxes was made. New wants and the taste for luxuries came to the West. The demand increased for the silks of China, the calicoes of India, the fine linen of Egypt, the gems of Africa. The spices of Arabia and India were sought to make more palatable the heavy and predominant meat diets of the feudal manor house. Carpets, furniture, window glass, and artificial light came into western use as new articles of consumption. Manufactures began to spring up. Windmills, brought from the East, stimulated industrial enterprise.

Moreover, there was a beginning in the increase of central authority over the feudal lords. Many lords went on the crusades never to return, while the kings stayed at home. Vacancies in many feudal holdings reverted to the princes from whom they had been secured.¹⁵ Towns in

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England, France, Germany, and the Low Countries bought their independence from feudal lords who wished money for crusading expeditions. As these free towns grew they became centers of hostility to feudalism. The extension of trade created wealth in money as well as in land. Feudalism was doomed; was, in short, slowly done to death by the growth of business economy.

The rise of the towns brought to the Middle Ages a new era in manufactures and general business progress. Altho their origins are in most cases lost in the past, the record indicates that after 1000 A. D., real towns grew up in constantly increasing numbers. Early medieval towns, of course, were imperfectly differentiated from the surrounding countryside. Gradually, however, the existence of fortifications, or of market facilities, determined their position. People found protection by nestling under the walls of some castle or monastery. Indeed, it is thought that the invasions of the Northmen and Hungarians caused the building of protecting walls about settlements and so contributed to the growth of towns.¹⁶ The chance for profitable trade was sought, too, by the process of establishing the town at some break in a line of transportation, "where goods had to be transhipped and where merchants would naturally congregate to rest and exchange their wares (cf.

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Ox-ford, Cam-bridge, etc.).”¹⁷ In the declining days of the Roman Empire and in the dark years of the early Middle Ages, men sought protection and the means of subsistence from others and thus bound themselves to feudal lords. From 1000 A. D. on, intensified by the effects of the crusades, men began to feel able to feed, clothe, and defend themselves. Then commenced their efforts to free themselves from their feudal lords. By the twelfth century, the more fortunate towns secured, by charter, certain liberties of buying and selling and claimed greater freedom. This greater independence was obtained by grant, purchase, or revolt.¹⁸ The growth of these so-called free towns and cities was a distinct forward step in business and industrial progress. The towns were the “happy islands of peace” which “arose amidst the wide wasting ocean of violence and anarchy.”

At first, unfortunately, the conscious business policy of the town was based on the ideal of self-sufficiency. Trade was held to be a local and municipal affair. Citizens of neighboring towns were treated as foreigners and subjected to heavy trading disabilities. Even within the town itself, business was highly restricted, for “only full burgesses were free to enjoy municipal privileges.”¹⁹ Late in the eleventh century, a further element of restriction grew up in the towns, the *gild*, merchant or craft.

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The function of the gild was to maintain the monopoly of trading for its members. Outsiders, even if burgesses, were commonly prohibited from selling retail, and were subject to special toils. Entry into the gilds, tho sometimes on a hereditary basis, was normally through a stage of apprenticeship; and here again there were opportunities to exclude the many, and to confine the privileges of trading to a narrow oligarchy.³⁰

The Anglo-Saxon word *gild* means a "contribution to a common fund" and came to be applied to almost any association or society of people engaged in a similar calling, or having a common purpose. Four kinds of gilds were prevalent: *religious gilds*, beneficial associations to aid the sick, and to furnish funeral benefits; *frith gilds*, mutual associations formed for the protection of members in legal affairs or in cases of violence and fraud; associations of traders known as *merchant gilds*; and associations of artisans termed *craft gilds*. Only the merchant and craft gilds need concern us here. As there grew up in the town a native merchant class of men who devoted most of their time to buying and selling, the need for organization appeared. Merchant gilds were formed to prevent or regulate outside competition and to serve the members of the association. These gilds extended their political power and were often practically identical with the municipal institutions of the

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town. They were granted the exclusive right of trading within the town. "Foreigners," people from any other town, were allowed to sell wares in the town at wholesale but could not sell at retail. The merchant gild sought to preserve a monopoly on trade for its own members.

The craft gilds were not less active. "They tried to secure good handiwork on the part of their members, and to suppress the production of goods by irresponsible people who were not members of the craft or 'mystery.'"²¹ The regulations of the craft gilds divided laborers into apprentices, journeymen, and master-workmen, stipulated hours of labor, rates of wages, materials to be used in manufacture, and prices for products. Grants of monopoly were made to the craft gilds, and no one was allowed to practise a craft who did not belong to the appropriate gild.

Both forms of gilds had a good effect, at least at first, on the new development of business economy. While they were restrictive and monopolistic, they encouraged good workmanship and developed industrial and commercial groups within the towns. They became an essential institution of the town, and prepared the way for a more general organization representing the town as a whole. The grant of monopolistic privileges to a merchant or craft gild was commonly followed by concessions to all the townsmen.

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Self-governing communities grew up as independent units in the midst of feudal society and feudal states.

The rise of towns reached its height at different periods in different parts of Europe. The Flemish towns led in the industrial development of western Europe. By 1200 there were some forty towns in Flanders, of which Bruges, Ghent, and Ypres had extensive industries. Manufactures of fine textiles, laces, carpets, leather goods, and metal work flourished and expanded. In Germany, the change from rural to town life did not become marked until the second half of the thirteenth century, when the free or imperial cities of Germany acquired their full powers of government in that confused period of anarchy following the death of Frederick II. By 1500 Hamburg had a hundred craft guilds, Cologne eighty, and Lübeck seventy. In the twelfth century, revolts against the nobles became increasingly common in France, and towns began to secure charters for government. Industry developed more slowly in France, but before the close of the medieval period, Paris and other cities were producing for export. Before 1100 towns in England were few and small. By the thirteenth century they began to grow as centers of influence and to multiply in number, but they did not reach the height of their medieval prosperity and independence until the

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fifteenth century. Nowhere in Europe, however, did the towns enjoy such complete independence and such widespread commercial activity as in Italy.

From 1000 to 1500 A. D., the Italians were the active trading people of Europe. In the declining days of Constantinople, energetic business men emigrated to Venice, Amalfi, Pisa, Genoa, and Florence, carrying with them their capital, as well as their skill in commerce and finance. A vigorous development of money-economy began.

Venice very largely bent her energies to the carrying trade. Altho her artizans produced glass, cloth, silk, leather, paper and soap in great quantities, the city was preeminently a city of great merchants rather than of small artizans. By the thirteenth century, Venetian traders were found throughout Europe. Conscious attempts were made to force all trade to flow through Venice. Foreign vessels were not permitted to cross directly between the east and west shores of the Adriatic, but were forced to go by way of Venice and unload at least two-thirds of their cargoes there. Venetian merchants were forbidden to ship their goods in foreign bottoms or to sell their vessels to foreigners. Visiting German merchants had to dispose of their entire stocks in Venice. The artizans of Venice were forbidden to practise their trades in foreign countries. The Rialto, or commercial exchange of Venice,

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became a tremendous business center. Private banks were numerous. The Bank of Venice, which is probably the oldest bank in Europe, was formulated in 1171 out of numerous bureaus which had been established to pay the interest on the first "permanent national debt." In 1280, Venice struck a gold coin called the ducat, which was of the same weight as the gold florin of Florence, struck in 1252. At the beginning of the fifteenth century it was reckoned that "there were at least a thousand nobles in the city whose income ranged from 4000 to 70,000 ducats each, and that at a time when 3000 ducats would buy a palace."

Florence gained her independence in the twelfth century and soon became the most famous inland Italian city. She built her greatness upon manufactures and financial operations. Her looms were the first to compete with success against the cloths of the East, and before the close of the medieval period, Florence had eighty-three factories for the production of silks and gold brocades.²² She manufactured, as well, straw hats, artificial flowers, soaps, essences, perfumes, lacquered ware, glass, works in mosaics, metal, and alabaster, and even musical, mathematical, and scientific instruments. In order to sell her goods, make collections and exchanges, Florence established warehouses and banks at London, Bruges, Antwerp, Lyons, Avignon,

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Geneva, Marseilles, and Provence. Merchants from all over Europe could draw on Florence for the settlement of their balances.

Forms of commercial paper (bills, checks, and notes), methods of keeping accounts, the transfer of credits—all were developed in the Italian cities.²³ In the thirteenth century, the Italians wrenched the trade in money from Jewish hands and Italian money-lenders established themselves in every land. The house of Peruzzi is reported to have had fourteen branches and one hundred and fifty agents in different parts of Europe. Nearly every great loan was effected through Italian agencies. North of the Alps almost any Italians engaged in banking were called "Lombards," and Lombard Street in London took its name from these Italian dealers in money. The name was applied as early as 1318.²⁴

Simultaneously with the commercial activities of the Italian cities, the peoples of northern Europe were engaged in a similar enterprise on the coasts of the North Sea and the Baltic. The cities of Germany, in order to take advantage of the trade in the North, united in the Hansa or Hanseatic League, the most remarkable business association of the medieval period. A treaty between Lübeck and Hamburg in 1164 probably marks the beginning of the League, altho the name Hansa (an old Teutonic word meaning confederacy) was not applied to it until

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1343, and it was not until 1368 that it became definitely organized. The aim of the League was to protect the commerce of the member cities from the attacks of pirates and feudal lords and to secure trading rights and privileges in countries abroad. The League varied greatly in membership and rose to the height of its power in the fourteenth and fifteenth centuries, when there were from sixty to eighty cities in the association. As the power of the various cities increased, the League became more ambitious. It endeavored to acquire a monopoly of the trade of the North. To gain this object, it obtained privileges and immunities from the northern kings by lending them money. Eventually, it secured almost a complete monopoly of the foreign trade of Denmark, Prussia, Russia, and Scandinavia. The League established "factories" or trading posts (not manufactories) at the central points of foreign trade, at Bergen, Bruges, London, Novgorod, and many other centers. Important privileges for these posts or factories were secured by treaties. Officials of the Hansa were recognized by the governing powers in all dealings between their own subjects and the Hansa merchants. Any merchant of any city in the League had the right to trade with any factory in the League and to enjoy its trading privileges. The factory was in the first place a fortress where Hansa merchants could be safe

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from attacks of the natives; in the second place, it was a place where trade could be regulated and where merchants could be held down to the strict rules of the Hanseatic Congress.

The government of the League was vested in a Congress of deputies which met once in three years or on special call. This Congress formulated decrees, passed them on to the member cities and to the "factories," and enforced the decrees with severity. A court was also held in the chief cities for the purpose of adjudicating matters pertaining to the League. The members of the League recognized the famous sea laws and ordinances of Wisby, an important Hansa town on the Island of Gothland. The principles of this law, in seventy chapters, have been embodied in all subsequent legislation governing maritime affairs and constitute the groundwork of modern marine jurisprudence.

The trade of the League was enormous. In exchange for the silks, velvets, fruits, sugar, and spices of the eastern countries, the Hansa merchants brought to the ports of England and the Netherlands fur and amber from the Baltic, and herrings, pitch, and timber from the countries of the North.

By 1500 it was apparent that the League had outlived its usefulness, and it began to disintegrate. Public order now prevailed, and commerce was reasonably safe. The local German princes

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threatened cities that did not withdraw from the League. The Dutch and the English began to make headway in trade. The opening of the new sea route to India by way of the Cape of Good Hope had its effect. The commerce of the East and West, which had been conducted in the ships of Pisa, Venice, and Genoa to the ports of London and Bruges, and thence by the Hanseatic traders to the ports of the Baltic, was now transferred to the countries on the Atlantic seaboard, whose ships had already become conspicuous in trade.

During the whole of the medieval period, the development of business economy in England was fitful and slow. On the side of trade, the Venetians and the Hanseatics fetched and carried for England. Even the "Merchants of the Staple," who enjoyed a legal monopoly in the export of wool and sheepskins, leather, tin, and lead, were composed of aliens in the main. It was not until the very end of the Middle Ages that the native English merchants began to fight for privileges and rights equal to those extended to foreign merchants. On the side of money, progress was surer. Even in Anglo-Saxon times, the English kings began to commute the duties in kind upon exports and imports into money payments. Internal taxes and fines began to be collected in silver. A currency of silver pennies based on the Carolingian pound was struck. In

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Stephen's time, to be sure, many bishops and barons coined money on their own account, but Henry II in 1180 called in all this base money. The first gold coins were struck in 1343 during the reign of Edward III. Besides debasing the currency from time to time, the English kings borrowed on a considerable scale from the Jews until their expulsion in 1290, and later from the Italian merchants and bankers.

At the close of the reign of Edward III, the lord of the manor had been reduced over a large part of England to the position of a modern landlord, receiving a rental in money from his tenants and becoming dependent for the cultivation of his own *demesne* on hired labor. The *villeinage* of early times had been gradually declining, and rent and wages were everywhere taking the place of *villein* tenure and forced service. The terrible ravages of the "Black Death," perhaps the most devastating plague of all history, halted economic progress in 1348, and resulted in the Statutes of Laborers of 1349, which attempted to drive the liberated serf back into his old position. The peasants revolted in 1381, under Wat Tyler, and while the revolt was suppressed, the death blow was dealt to serfdom.

Gradually, from the manors held by the Crown and by the Church, the commutation of week-work, boon-work and commodity payments into money rents spread to the lesser manors.

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Gradually, too, the life of the people in the towns was reorganized on the basis of buying and selling. Crafts multiplied, merchants became more active, and a money economy was born. In 1404 Merchant Trading Companies began to be formed and by 1485 conditions were favorable for the opening of a new era in English business and commercial history.

By and large, medieval commerce was carried on under a "natural economy" (by barter) until the thirteenth century. From that time forward silver and gold money was increasingly used. But at no time were conditions such as to develop a complex business or money economy. Merchants could not rely upon governments to maintain standards of value. In many countries, coinage was debased again and again by ruling kings. Counterfeits were not rare, and the clipping of coin was common. Many of the great feudal lords stubbornly clung to their privileges of minting and issuing coins. The currency of medieval Europe was made up of a vast variety of coins which could not be passed at full value outside the localities where they were minted. The money-changer was a necessary figure, and after the thirteenth century was found even in the smallest towns, buying and selling the various coins in circulation. But while the money-changer facilitated payments in a particular town, he avoided the transportation of coin from

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town to town and so was not very helpful to the merchant who wished to make a payment in some distant city. Until the rise of the Italian banking houses of Bardi, Peruzzi, and the Medici, the transmission of coinage was an exceedingly dangerous undertaking and the facilitation of commercial payments by letters of credit and bills of exchange was infrequent indeed.

Commercial pursuits were not classified. Dealers of all kinds overlapped in functions. Pedlers became shopkeepers and shopkeepers became pedlers as commercial advantage beckoned. Wholesale merchants supplied the retailers and were generally prosperous, but even these traders did not specialize on particular wares or confine their activities to wholesale trade. Markets were not continuous, but merely weekly or semi-weekly. Trade was occasional, and even the fairs were held semi-annually or annually more often than quarterly. "The supply of goods was not large enough, or regular enough, to make trading permanent."²⁵

It is perhaps safe to say that the medieval fair is typical of commerce and trading during the greater period of the Middle Ages. In the first place, the measure of value accepted was uncoined precious metal. In the second place, the fair enjoyed a monopoly privilege. During the

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usual six-weeks' term of a fair, all outside buying and selling was prohibited. "For the privileges given, the king and princes levied a toll on all goods brought to the fair, sold during its continuance, or taken away." The early fairs were held in connection with religious festivals. Later, side-shows in plenty, wild animals, actors, clowns, and gambling games grew up in the fairs to provide excitement for the boring and wearisome town and rural life. Partly social and partly commercial, fairs caught the fancy and spread all over the Continent and into England. Large and notable fairs were held at Bruges, Champagne, Paris, Leipzig, London, and Bristol.

Inside the fair, various special privileges were granted to merchants and particular trading institutions were developed. The most important of these was the Court of Pie Powder (Pie, French *pied*, foot; *curia pedis pulverizate*, court of the dusty foot) "from the dusty feet of the merchants, or, as some said, because justice was done as speedily as dust would fall from the foot." Here, cases of breach of contract, violations of the complicated rules for the rental of booths, and evasion of the weights and measures regulations were tried by a committee of traders. The court was highly prized because commercial law was in its infancy and because no jus-

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tice for the merchant could be expected in a manorial or feudal court.

In fact, one of the wonders of the medieval period is that in spite of feudalism, localism, and the restrictions of town self-sufficiency, the business life of the Middle Ages evolved a "comprehensive but effective series" of associative and cooperative regulations and standards of trading and artizan behavior which were truly significant.

The formulation of such thirteenth and fourteenth century sea codes as that of the Hanseatic stronghold of Visby in the Baltic, of the Island of Oleron in the English Channel, and of the Catalan *consolat del mar* in the Mediterranean, maintained for centuries the basis of international shipping practise, integrity, and mutual confidence. Similarly the trade standards and usages of the gilds and of the great international fairs at Medina, Lyons, Leipzig, Frankfort, and elsewhere, which gradually crystallized into written ordinances, provided foundations for modern municipal institutions and for commercial and financial codes, many of which survive to this day. These were the symbols of that mutual trust which has always been the indispensable factor in all enduring business relations—the spirit which found expression in those early days in such usages as the phrase "easterling," or "sterling," as applied in confident acceptance at face value of the silver offered in trade at the London Steelyard by the "easterlings" from the Hanseatic towns around the Baltic and the North Sea.²⁸

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The Middle Ages were not "stagnant and unproductive." They bequeathed to the Modern World many economic inheritances "which could not have been obtained directly from classic antiquity."²⁷ Constantinople and the economic forces set in motion by the Saracens "acted as a leaven in the western world." The people progressed steadily from feudal oppression, and in the later centuries rapidly. By the fourteenth and fifteenth centuries, financial practise and organization elaborated. Developments in the manufacture of metals and textiles were notable. Merchant life was dignified and prosperous. New articles of consumption were widespread. Fresh desires and new ambitions ushered in a new period.

IV

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THE FIVE HUNDRED YEARS which make up the so-called Modern Era are of supreme importance to the story of business economy. Within the comparatively brief limits of this short sweep of years, 1500-1929, are set greater changes in the economic substructure of civilization than are to be found in the records of any previous period. While the present is conditioned in no inconsiderable degree by the ancient and medieval, it has been influenced in a very special sense by the events of these last five hundred years.

For good or ill, by the latter part of the fifteenth century, mankind in western and central Europe had begun to think for itself, to test the reverential claims of long-established economic institutions, to reject much of the old, and to adopt much of the new. Instead of clinging to tradition as a guide through every maze, instead of keeping timidly in view the landmarks of the voyagers of the past, men everywhere set up "change" and "progress" as watchwords of their enduring conflict with the problems of economic existence. New beliefs, new values, and new institutions began to affect not only the business life of Europe (the Commercial Revolution)

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but also its intellectual life (the Renaissance) and its religious life (the Reformation). Emancipation from medieval trammels left men free to see many of the facts about them, to reason concerning these facts, and to act boldly upon resultant judgments. Thus, while gathering up the harvest of the past, they sowed the seed for new crops to ripen and flourish in the centuries to come.

In the later and brighter years of the Middle Ages, Europe began to shape itself into a system of organized territorial states. The driving force of trade prepared the way for the triumph of the national principle. From the towns and the city centers, commerce spread through the whole territories of the states, "weakening the great feudal landowners and powerfully assisting the monarchy, and its natural allies—the middle classes." For a long time, Europe had been roughly divided into those lands—like Portugal, Spain, and England—that produced raw material, and those—like Flanders and northern Italy—that made raw materials into finished goods and traded these products about the whole of the medieval world. But by the middle of the fifteenth century, the native merchants in these great raw-material-producing areas commenced to cast covetous eyes at the prosperity of established marts of trade. Portuguese, Spanish, and English merchants turned to their royal govern-

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ments for help, for they had suffered much from the confusion of local laws and regulations, the multiplicity of tolls, and the diversity of coinage. They needed royal support to enter into a serious rivalry with Italy and Flanders. Very soon they became strong enough to represent their interests as national interests. Offensive and defensive alliances were struck between kings and merchants. "The king received the money wherewith to support a standing army, to enforce order on the king's highway, and hold the nobles to the king's peace; the merchants gained privileges and protection, and the effective help of royal fleets."

In divers ways these raw-material states prepared to win commercial leadership. Their sailors learned to leave the coast-lines and to steer boldly into the open ocean, secure in the consciousness that they were approaching not a "sea of darkness" but successive capes of "Good Hope" and at length the Indies. The exorbitant prices for spices demanded by the Italian merchants stimulated the search for new routes to the East.

The urge that drove the Portugese down the West Coast of Africa, leading to the accidental discovery of Brazil en route; the impulse that sped Columbus on that hazardous adventure across the dark wastes of the Atlantic, and the inspiration of the frantic efforts to break through the ices of the Northwest Passage and of the

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countless subsequent drives to penetrate the unknown wilderness of the new continent—nearly all of these immortal episodes had as their chief objectives the attainment of new trade routes to the precious stores of spices in the East.

Pepper, cloves, and cinnamon were absolutely indispensable for the heavily predominant meat diets of Western Europe. . . . The only substitute for refrigeration was a profusion of spices; and if there had been no such emphatic demand for them issuing with increasing emphasis from every kitchen in Western Europe as living standards improved, one wonders whether there would have been any abiding persistence, any lasting accomplishment, in all of the adventuring, all of the fervid revival of the Crusader's spirit, all of the hunting for the hated Moslem in the Orient.¹

The prosperity of the Western nations was visibly bound up with the discovery and control of new trade routes. The lure of the Indies ushered in the golden age of exploration and discovery which dawned during the late fifteenth century and reached its zenith during the first half of the sixteenth.

In this period of world-discoveries and grand adventure, which brought about the Commercial Revolution, the era of town or municipal commerce passed away forever. The Mediterranean ceased to be the center of commercial and trading activity. Portugal, Spain, Holland, France, and England succeeded to the greatness and

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prosperity of Venice and Genoa. The expeditions which these nations sent forth to the lands of silk and spice succeeded beyond their dreams in turning the streams of commerce to their ports. Among these new masters of the seas, the peoples of the Atlantic seaboard, national consciousness was strongly developed, and centralized governments were at least partially perfected. The feeble governments of the medieval period were replaced by national monarchies. This national spirit was carried into commerce. Portugal (from 1420 to 1580) and Spain (from 1479 to 1588) owed their trade and commerce to the enterprise of their royal families. Holland gained a trade route as an incident of her struggle for national independence (from 1577 to 1648). England achieved commercial importance during the time of the Tudors (1485-1603). France was less active, but became a significant commercial power under the Bourbons.²

The development of business economy was rapid under the impetus of expanding trade. By the sixteenth century, "the uses of money had developed far enough in England to make the inflow of Mexican and Peruvian silver from Spain produce grave social results." An abundance of silver began to come from the West Indies in 1516 and from Mexico in 1522. The discovery, in 1557, of a simpler process of reducing the ore, by means of Spanish quicksilver, de-

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creased the cost of production, and still further augmented the yield of bullion.

In 1553, the Spaniards had obtained access to Peru, from which additional supplies of silver could be obtained. Despite the efforts of the Spaniards to retain this treasure in their own hands, it soon began to circulate in Europe; and a share of it was brought to England, especially, as we may believe, for the purchase of wool and cloth.³

This influx of silver had its effect on general prices (prices rose) and severely strained the circumstances of the landed gentry by reducing the value of the money payments into which feudal dues had been commuted. However, the new supplies of precious metals gave a powerful impetus to commercial enterprise and made it possible for the sixteenth-century merchant to finance big undertakings. England, which had been mainly a self-contained raw-material-producing state, entered upon a career of colonizing.

The era of colonization begins in the sixteenth century. The dazzling riches of Aztec and Inca, the "curious incense burners of the West Indies called tabacos," the possibilities of cheap imports of sugar, coffee, cotton, rubber, cabinet woods, etc., directed attention towards colonies as a means of supplementing the economic resources of the mother country. The new nations of Western Europe recognized the necessity of

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founding their power not on "the fearlessness of their chevaliers," but on the extent of their financial resources.

In endeavoring to cultivate and preserve the wealth of their subjects, European monarchs proceeded upon the assumption that if a nation exported costly manufactures to its own colonies and imported cheap raw materials from them, the money paid into the home country for manufactures would more than counterbalance the money paid out for raw materials, and this "favorable balance of trade" would bring gold to the nation.⁴

With this end in view, the European nations became vitally interested in the islands and the continents of the West, as well as in Africa, India, and the spice islands of the East.

As the scale of business undertakings grew, the one-man enterprise, and even the partnership, became inadequate to control the swelling trade. The most effective method of developing a lucrative colonial trade came to be by means of chartered commercial companies. The largest and most dangerous trading projects were carried on in the fifteenth and sixteenth centuries by "regulated companies." These companies were created by the Crown and were under royal regulation. They were composed of merchants, each of whom traded on his own account. The "Merchant Adventurers" Com-

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pany was chartered to trade with the Low Countries and Germany as early as 1505. In 1581 the Levant Company was regularly incorporated. England (in 1600), Holland (in 1602), France (in 1664), Sweden, Denmark, Scotland, and Prussia each chartered its own "East India Company." The London and the Plymouth Companies (1606) shared privileges in the English colonies on the Atlantic Coast of America. The modern corporation had its birth in the joint-stock companies which were the natural outgrowth of the "regulated" companies.

After a decade or so, many of the regulated companies found that individual members often pursued their own special interests to the detriment of the company's welfare. Consequently they gradually required their members to contribute to a common treasury, to entrust the direction of the business to the most able members, and to receive their profits or dividends in proportion to their shares in the general treasury or "joint stock." The idea of a permanent whole company, but one in which each individual could buy or sell "shares" in the joint stock, caught the fancy, and most of the chartered colonial companies organized on the new basis. The joint-stock company began its conquering career in England in the latter half of the sixteenth century with the formation of the Russia Company and the Adventurers to

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Africa. The English East India Company, organized as a regulated company in 1600, was reorganized piecemeal for half a century until it, too, acquired the form of a joint-stock enterprise.⁵

With the growing complexity of business activities there was need for more accurate financial record-keeping. Before 1494, simple accounts were the rule, for it was an easy matter for stewards of estates to keep records of the work done and the commodities received from the tenantry and for the small merchants to depend upon memory and the most elementary pocket file. The mystery of double-entry bookkeeping—an Italian invention first published in 1494—led to more elaborate records and was widely adopted by the mercantile classes of England in the sixteenth century.⁶

Financial organization, too, became more elaborate. Antwerp presented in the sixteenth century the first instance of a great bourse or exchange, a place “in which men meet daily and effect their exchanges without displaying and transferring the wares themselves, by the use of paper securities representing the wares.” The wares of the Antwerp exchange were paper instruments representing loanable capital. Here was collected loanable capital from all over Europe. Monarchs who formerly borrowed money from individual financiers like the South

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German Fugger family now negotiated their loans on the Antwerp exchange.

Through the medium of the exchange a French king could and did borrow money of a Turkish pasha; and it is said that payments amounting to a million crowns were made in a single morning without the use of a penny of cash.

Shares of public debt became the object of regular commerce and modern forms of speculation developed. Indeed, as early as 1542, there were complaints about speculating on the rise and fall of stocks, and the Antwerp exchange was called a "monstrous thing." By the beginning of the seventeenth century, the Antwerp exchange and the new exchange at Amsterdam began to attract capital not merely to be loaned on royal credit but to be invested in private or semi-private business undertakings. Shares of trading and industrial companies became active in exchange operations. Shares of the Dutch East India Company were put on the market in 1602 and shares of the English companies trading with Asia and Africa circulated freely on the Amsterdam exchange. The stock exchange was a natural accompaniment of the stock company.

In the early Middle Ages the practise of lending money for interest had been forbidden by the Christian Church. However, by the middle of the seventeenth century, the old doctrine of

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“usury” ceased to appeal to the conscience, and banking arose in England. The London goldsmiths possessed strong boxes because of their work with precious metals, and occasionally accepted the commissions of merchants and landowners for the safekeeping of money in these strong boxes. Very soon these enterprising goldsmiths discovered that they were never required to pay back more than a fraction of their total deposits in any given day or week and that consequently they could make profits by lending part of the moneys in their strong boxes. Soon they began to encourage deposits by paying interest to depositors. A tract of 1676 describes their operations as follows:

“Having thus got Money into their hands, they presumed upon some to come, as fast as others was paid away, and upon that confidence of a running Cash (as they call it) they begun to accomodate men with moneys for Weeks and Moneths, upon extraordinary gratuities, and supply all necessitous Merchants that overtraded their Stock, with present Money for their Bills of Exchange, discounting sometimes double, perhaps treble interest for the time, as they found the Merchant more or less pinched.”

They had become bankers of discount and deposit. Later they discovered that it was as easy to lend their promises to pay as it was to lend coin, and they became bankers of issue. Goldsmiths' notes were familiar currency among

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the wealthy. London developed into an important monetary center, and the goldsmith bankers exerted an important political influence in the time of the Stuarts (1603-1689), a considerable period before the Bank of England was established (1694).

The expansion of trade and the development of financial organization so that the sixteenth-century merchant was able to command accumulations of capital and to take advantage of the new machinery of credit was the strongest possible stimulus to manufacturing. In the Middle Ages, as has been noted, the prevailing organization of manufacturing was the gild system, under which the individual craftsman worked with his own tools on his own materials. The markets were largely local, their needs were well known and were subject to little fluctuation. With the development of widening markets, the accumulation of ample funds by business men, and the consequent opportunity for quantity production and standardization of products, a new organization of industry appeared.

This new system, the *domestic* system, established by the capitalists, marks the triumph of business enterprise over medieval craftsmanship. The domestic system of fabrication is distinguished from the gild system by the existence of a middleman or *entrepreneur* upon whom the domestic worker is dependent. Bankers, investors,

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and merchants, who possessed sufficient funds, furnished raw materials and tools, spinning wheels and looms to a large number of workers, fixed a rate of money payment for a given amount of work (irrespective of the market price of the finished article), and then received back and sold the finished products. The system was "domestic" because the work was done at home, and "capitalistic" because the raw materials and finished products were owned not by the workers who worked them but by a "capitalist." Such a system existed in the West of England woolen industry in the middle of the fifteenth century and at an earlier date in the tin-mining industry of Cornwall.⁹ In Tudor England (1485-1603) the domestic system became widely used. Merchants and investors went outside the towns, "where gild restrictions were irksome, and built up new communities of small householders." By so doing, they escaped from the medievalism of the gild system, with all its rigid regulations and archaic restrictions. Business captured craftsmanship.

From 1558 to 1603, the "Great Lord Burleigh," first as Secretary of State for England and later as Lord Treasurer, made deliberate attempts to foster native industries and granted patents for new manufacturing enterprises.¹⁰ English capitalists undertook new enterprises in glass manufacturing, starch manufacturing,

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and sugar refining, as well as developing the English woolen industry to new importance. The political conditions of the time favored the immigration of skilled artizans, and this influx of skilled workers brought about a great expansion of new branches of cloth manufacture, and the introduction—or improvement—of glass manufacture, cutlery, paper-making, and other trades.

With all the world-wide searchings for new trade routes and the steady extension of trade to the ends of the earth, commerce came home to the mass of the English people. The occasional and periodical fairs of the Middle Ages proved to be entirely inadequate to meet the trading needs. As communities became less self-sufficient, weekly markets sprang up, grew quickly into daily markets, and persisted as definitely established retail shops. Wholesale supplies became more regular as facilities for communication and transportation increased and as a new class of merchants appeared, the commission merchant or factor. Relays of horses with postilions were established by governments, and regular transportation routes aided greatly in extending the volume and variety of trading. In the sixteenth century a distance of seventy-five miles (Strassburg to Basel) required eight days' travel in a coach. In 1600 the same distance was covered by diligence in six days, and

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in 1700 in four days. The commission merchants or factors specialized their business activities to such an extent that by the seventeenth century five classes of factors were distinguishable: "those who lived in a manufacturing or commercial center and bought goods for others; those who sold goods for others; the correspondents of business men and bankers who made collections and remittances of money for them; forwarders, who received and forwarded goods at places of transshipment; and, finally, the agents for carriers, who distributed and collected the load of a freight wagon in a city."¹¹ New wants, new desires for better things, and their increasing wholesale availability stimulated the retail trade so that by 1700 London and other English cities had a wide variety of retail shops doing business with large consuming clienteles. Symbolic shop-signs, shop-bills, trade-cards, various public registers of buying wants and selling offers, and even advertisements in the news-books, began to appear. In 1663, advertising in England had progressed to the point of royal notice. Roger L'Estrange was given a patent as "Surveyor of the Press," which included the exclusive privilege of "writing, printing, and publishing advertisements." Newspapers of the period of 1700, partially impelled by growing incomes from advertising, began to be issued twice and three times a week, and in 1702 the first English

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daily newspaper appeared—the London *Daily Courant*.

Agriculture, too, began to be bent beneath the sway of business economy. The sixteenth and seventeenth centuries witnessed, in many districts, significant departures from medieval techniques. Land management had been reconstituted on the basis of money economy in the fifteenth century and it now came to be regarded more generally from the point of view of possible profits. Tillage was pursued with a view to the markets, and the possibility of enhancing rents rendered it profitable to sink capital into improvement of the land. Wealthy investors had large sums of capital to invest. They put it into making agriculture more efficient and businesslike. "First in Holland and Flanders, then in England, a revolution in agriculture took place."

Attention was now concentrated on the discovery of improved rotation of crops, scientific animal husbandry, and more effective methods of cultivation. Those of the old farming population who could not pay the costs of enclosure (fencing and hedging), or adapt themselves to the business economy of making and living on money, either became wage-workers on the land or drifted into the towns. The capitalistic pioneers of the new methods were one and all advocates of enclosure.¹² It availed the small pro-

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prietors and cottagers not at all to cling to the idea of the homogeneous village with its open fields and common rights. Public opinion favored putting the land to its most profitable use and enclosures went on apace in the effort to increase the marketable food supplies.

Throughout the seventeenth and eighteenth centuries, the enclosure of common waste and common fields was an outward and visible sign of the progress of improvement in the management of land. The primitive method of laying out the land of the freeholders and tenants as scattered strips in common fields, with pasture rights on the common waste, presented an obstacle to any changes for the better. The existence of common fields, cultivated by common custom, was a hindrance to improved husbandry; and the pasturage on common wastes was often spoiled from lack of better management.¹³

Between 1760 and 1797, some 1,500 Enclosure Acts were passed by the English Parliament consolidating strips and giving to every owner of strips and meadowland a share of land equal in value to what he had held, with the requirement of fencing and hedging the new holdings. In the latter part of the eighteenth century the common-fields system almost entirely disappeared. The advance in rents during the Napoleonic wars sent millions of small farmers into the towns and led to the consolidation of holdings.

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The hold of business on English farming was complete.

These sixteenth-, seventeenth-, and early eighteenth-century changes in commerce and agriculture, usually called the Commercial and Agricultural Revolutions, were essential preliminaries to the so-called Industrial Revolution which was born in the north of England in the middle of the eighteenth century. Surplus capital became plentiful in 1715-1720, and a frenzy for speculation took possession of London. Promoters thrived, and "bubble" companies sprang up overnight. "Change alley became the vortex of a human whirlpool," as excited men and women of all ages and rank joined together in the "fierce pursuit of fortune."¹⁴

One company, with a capital of three million pounds, was "for insuring to all masters and mistresses the losses they may sustain by servants"; another was "for furnishing merchants and others with watches"; a third, with a capital of one million pounds, was "for a wheel for perpetual motion"; a fourth was for making salt water fresh; a fifth was launched by a clergyman for the extraordinary object of importing a number of large jackasses from Spain in order to improve the breed of mules in England—"as if," Mr. Fox Bourne grimly adds, "there were not already jackasses enough in London." This company proceeded so far that negotiations were actually opened for the purchase of immense tracts of marsh-lands for its purposes."

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The mania raged for months and culminated in the promotion of the South Sea Company. Finally, the government took a hand and commenced the prosecution of Blunt and his South Sea Company. At once the bubble companies collapsed and vanished like soap-bubbles at the prick of a pin.¹⁶ The London brokers had learned their lesson and began to feel their way in the direction of the organization of a security exchange, which, however, did not materialize until 1773.

The significant truth which began to occupy men's minds in this period, 1720-1740, was that manufacturing was still on the very simple basis of the domestic system, while mercantile and banking affairs were organized on a large-scale basis. The enlargement of markets and the piling up of surplus capital that eagerly sought profitable investment began to provide a strong incentive for increased production. A dawning realization came to the capitalists that they could best secure and keep foreign markets, not by special privileges, but by producing goods at low costs; by making and selling goods that were better and cheaper than those of other countries. The need for new methods and new tools of production was felt. Enterprising business men had capital enough to be willing to run the risk of introducing new inventions in the hope of increasing production and lowering costs.

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Under these circumstances it is not surprising that a burst of inventive genius characterizes the eighteenth century. Inventions are seldom merely fortuitous; they are generally called forth by commercial need and favorable economic conditions for widespread trial.

The eighteenth-century revolution in methods of manufacture rightly begins in the textile trade. In 1738 Kay invented the flying shuttle for weaving cotton, a shuttle which made it possible for one man to manage a wide loom. From this point on, inventions in the textile field alternated between spinning and weaving machines. The Kay Shuttle made it easier to weave cloth than to spin thread. Greater supplies of thread were needed, and in response to the need Hargreaves produced the spinning-jenny in 1764, and Crompton the spinning-mule about 1774. Now the weavers could not keep up with the spinners until Edmund Cartwright's water-power loom was patented in 1787. The weavers and spinners were now "neck and neck," and able to make textiles on a large scale. The call for new supplies of raw material was soon answered by the invention of the cotton gin by the American Eli Whitney in 1793. Watt's steam engine, which was built on the work of other experimenters, was patented in 1769 and was first yoked to cotton-mill machinery in 1785.

The invention of the reverberatory furnace

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in 1784 made possible the smelting of iron by the use of coal and alleviated England's shortage of charcoal. As a consequence, the iron industry had a rapid rise in the coal fields of the Midlands and North ("The Black Country"). Improvement in communication and transportation went hand-in-hand with increased production. From 1760 to 1774, the English Parliament passed 452 acts for road improvement. Telford (1756-1834) and McAdam (1756-1836) made a scientific study of the problems of road engineering. The superimposing of layers of broken and crushed stone with a smooth surface rounded to shed water persists as *macadam* road engineering to this day. By the year 1825, the average speed of coaches and diligences had been increased from six to nine miles per hour because of improved roads. Canals were built to connect the coalfields with the new manufacturing centers, and Brindley's Bridgewater Canal (1759) halved the price of coal in Manchester.¹⁷ Railways began in the industrial North with the opening of the Stockton and Darlington line in 1825, which reduced the price of coal from 18 shillings to 8 shillings per ton. Robert Fulton put the Watt engine to work in the first commercially successful steamboat, the *Clermont*, on the Hudson River in 1807. The English General Steam Navigation Company was organized in 1824 in an effort to apply steam to sea traffic.

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Ocean voyages began in 1837 and the sailing ship was doomed.

The immediate results of the whole process which is called the Industrial Revolution were increases in production, reductions in prices of fabricated articles, and decreases in town rents.¹⁸ The proportion of men working on their own account grew smaller in all fields of enterprise, as did the number who consumed their own products, while the proportion of men working for wages increased.¹⁹ Ultimately, the effect of the Industrial Revolution was to introduce large-scale factory production as the normal type of manufacturing in all industries. In the two brief generations, from 1770 to 1840, the whole aspect of England changed. It became an empire of factories, mills, and foundries. The great textile towns and the "Black Country" of the coal and iron industry grew up. The iron output rose from 17,000 tons in 1740 to 125,000 in 1796. Canals and railroads cut through the agricultural districts to connect the industries with each other and with the outside world. England was fairly launched on her career as a manufacturing nation under a full-fledged factory system.

In the early years of American colonization, "the stream of migration to America was almost purely English" and brought to our shores the

ideas and usages of English business economy as it existed in the seventeenth century. The enormous task of wresting a living from primitive nature and the hardships entailed in protecting the little English hamlets from the harrowing raids of the Indian compelled the early settlers to adopt a simpler form of economy than that to which they were accustomed. Until 1750 coin was scarce and consisted mainly of specie from the Spanish and French West Indies and paper currency issued in the several colonies. Barter-trading and the use of commodity-currencies was common. Wampum, strings of shells, served for trading with the Indian. Cod-fish was used as a basis of reckoning values among the colonists in New England; bearskins were used in New York; wheat was the currency of Pennsylvania; tobacco the medium of exchange in Virginia. The sparse and scattered population made it necessary for the family to become self-sufficient after the fashion of medieval times. Household industries developed for the colonists were far too civilized to revert to the crude Indian mode of life. The self-sufficiency of the family group was the dominant feature of economic life until 1800. Specialization of occupation was impossible in the main. Complicated financial machinery was not needed and consequently did not come into existence. The chief aim of life was "to get enough food

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and clothing, to build houses and clear land, to keep off the Indians."

While this simpler form of economy was short-lived on the Atlantic seaboard, it remained the characteristic economy of the pioneers who "crept out into the narrow valleys, out into the deep forests, and high into the piedmont."²⁶ It passed westward with the frontier. By 1765 a huge agricultural area was already occupied and an immense stream of produce flowed to the port towns for shipment. Agriculture overshadowed all other forms of enterprise. Crops were sure, so that advances from England in goods and in cash were easily obtained by colonial producers. Few of the colonists, however, ever caught up with these credit advances. Many colonists who were frightfully in arrears in 1770-1776 welcomed the Revolution because it offered a method of staying debt. During the Revolution and for the first thirty years of American independence, agriculture continued supreme, and manufacturing remained a household matter. The United States lived on as an economic dependency of England.

With the hardships of the Long Embargo, and the War of 1812, thoughts began to turn to the development of native industries. The first protective tariff law was passed in 1816 and men bent to the task of creating infant industries out of household crafts. Mills began to appear

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along the tumbling streams, and machinery took up some of the burden of labor.²¹ By 1840, the factory system was firmly enough established to presage the industrialization of the whole country.

The industrial revolution began in earnest in 1860, nearly a century after its English beginning. The combination of great physical resources, a rapidly increasing population, and expanding railroad trackage created a large market which could be reached by large-scale manufacturers. The Civil War apparently stimulated the whole movement. The consolidation and unification of the Northern States for the purpose of repressing the rebellion set up the Northern Government as a huge purchasing market.

The government itself became the largest purchaser of manufactured articles in the world, entering the market as a heavy buyer of munitions and supplies for its army and navy. The steady rise of the price level during and after the war period greatly increased the profitability of business enterprise, while the far-sighted (or merely fortunate) men who borrowed money to build their establishments and were able, later on, to repay their debts in the depreciated national currency, thereby expedited the concentration of capital in industry.²²

English inventions began to be "smuggled in and copied." American inventors added to the

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borrowed contrivances and evolved ingenious machines of their own, many of which facilitated the production and market-distribution of manufactured goods. In 1835 at New York University, Morse developed the telegraph, which shortly "spanned the continent, bringing around one table the business transactions of a whole nation." Davenport invented the electric motor in 1837, Fitch introduced the turret-lathe in 1845, Howe created the sewing-machine in 1846, Hoe developed the rotary press in 1847, Vail produced the electric locomotive in 1851, and Bessemer worked out the Bessemer steel process in 1865.

For every inventor there stood a captain of industry ready to snatch the machine from the workshop, collect the capital to put it in motion, organize the labor forces necessary to production, and seek out the markets for the stream of goods that flowed from its whirling wheels.²³

The latter half of the nineteenth century saw the accumulated momentum of industry and of a developing business economy "gathering speed with each swiftly passing decade." The production of pig iron jumped from 1.7 millions of tons in 1870 to 13.7 millions of tons in 1900; the production of steel from 0.07 to 10.2, the value of exports of iron, steel, and manufactures from 5 millions of dollars in 1860 to 121 millions of dollars in 1900. Grants, subsidies, and privileges

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were bestowed upon railroads, mining enterprises, and manufacturing concerns.²⁴ Between 1860 and 1900 the capital invested in manufacturing rose from one billion dollars to twelve billion dollars and the number of industrial wage earners from 1,500,000 to 5,500,000.²⁵ By 1890 America had nearly half the railway mileage of the world. Gradually but steadily the control of business enterprise shifted from the promoters or the operators of industry to the "directors of capital accumulations." Banks began to operate on a large scale and the New York Stock Exchange grew in importance as a financial trading center. The National Banking Act was passed in 1863, silver was demonetized in 1873, specie payments were resumed in 1879, and since that time no form of currency has been at a discount. The first significant foreign loan was floated by Morgan & Company in 1899. The financial organization of trading and of manufacturing became complex indeed.

At the end of the century three-fourths of the manufactured products came from factories owned by associations of stockholders; in each great industry was a network of federated plants under corporate direction; by 1890 combination was the supreme concept of the industrial magnate.²⁶

In terms of material progress, a thousand years have elapsed since 1900, a century's span

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since 1914. The money value of manufactured products of the United States was about eleven billions of dollars in 1899 as opposed to sixty-one billions of dollars in 1923. In 1914 the combustion engine supplied only five per cent. of the horse-power in the United States. In 1928 it supplied more than the combined total of all other sources of power. The world's telephone-wire mileage was about 33.7 millions in 1913. By 1925 it had increased to 84.5 millions. Manufacturing efficiency grows on apace. Our steel production has increased 50 per cent. per worker since 1913. Each employec in the automobile industry is turning out 11.5 units (cars, trucks, etc.) as against 7.2 in 1913.²⁷ Truly we can say with Stuart Chase,

It was not until after the War that the sparks of mass production and automatic machinery, which we had been quietly nursing for some years, burst into flame, and stupefied the world. America did not invent mass production, indeed it is implicit in the technical evolution of the machine, but it developed the process beyond anything accomplished in other countries, and in the opinion of competent observers laid what amounted to a new industrial revolution upon the bed of the old.²⁸

The process of invention has gone on steadily and surely. The rise of the electric-power industry, the spreading use of the internal-combustion engine, and wireless transmission of power have

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“quicken^d travel and transportation, spread new arteries for the distribution of goods, and brought backward places within the grasp of urban modes and manners.” While the domestic market in terms of population has not grown so rapidly since 1890 as before, it has increased tremendously in the complexity and variety of its wants. The developing network of business communication and contact has spread urban market wants and market usages into the small towns and rural communities of the nation.

Nevertheless, in spite of higher standards of living and larger amounts of purchasing power in the hands of the public, there are signs that the country's industrial capacity *can* catch up with the market demand for goods and even pass it. Since 1899 physical production has increased far more rapidly than population, and total energy has grown precisely twice as fast as population.²⁹ The steadily advancing machine technique, the development of superorganization, of management, of engineering, and of equipment efficiency have resulted in speeding up industrial growth and production. The shoe began to pinch in 1907-1913. Buying power did keep pace with increased producing power. Because there had been such an increase in production, it was necessary that there should be an increased buying power. The credit structure of the country had to be enlarged. A sound expan-

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sion of credit was made possible by the passage of the Federal Reserve Act in 1913. A more questionable expansion of buying power came to the rescue of mass production with the development of instalment buying. In 1914 the war brought to American production that greatest of economic gifts—"a sellers' market." But it was a speculators' market, and in it there was no attempt to relate production to consumption, nor to the purchasing power of the ultimate consumer. People bought everything they could, contracted with manufacturers for products which they hoped to sell and not to use. The bubble burst with the crash of the stock market in October, 1919, and the "long arctic night" of 1919-1921 set in. The liquidation of inventories began and the machinery of production came almost to a stop.

Faced with the new practise of hand-to-mouth buying and with decreasing purchasing power, business struggled once more to set the factory wheels in motion. In 1921 began the period of high-pressure sales methods, and of generous and effective advertising. The new principle of "obsolescence" replaced the old principle of "wear," and the technique of shortening the style-life of products was emphasized and extended. The growth of instalment buying to an annual amount of between five and eight billions of dollars converted future earning power

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into current purchasing power. Europe's industry was seriously crippled by the war, and her needs beckoned to American productive capacity. Once more business and industry ran smoothly on to peaks of profit.

It is only recently that the need of relating production to consumption has again been borne in upon the alert. Intensive and extensive marketing necessarily costs money and may even overbalance savings in production. The problems of waste in selling, of more accurate market appraisals, and more scientific calculations of buying power are beginning to raise their ugly heads. European industry is reviving. Domestic competition is increasing the necessity of attending to total costs and not merely to production costs. A steady growth in holding companies, mergers, and amalgamations is still further altering the structure of business. To meet the danger of unlimited competition within a limited market and to gain the physical and pecuniary advantages of large-scale production and large-scale marketing, business is evolving new forms of combination, hitherto undreamed of in their possibilities of size and intricacy. The Industrial Revolution is still under way! As yet there can be no finality to the pattern or the extent of business economy.

Such is the brief and all-too-inadequate chronological story of the development of busi-

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ness economy. All of the many parts have contributed to our present whole—the commutation of feudal dues into money payments, the commutation of labor and commodity rents into money, the rise of crafts, the growth of the town as a trading center, the search for new trade routes and the Commercial Revolution, the program of colonial expansion, the organization of joint-stock companies, the development of banking, the adoption of accounting control, the creation of special organizations for investment and speculation, the establishment of retail shops, the Agricultural Revolution, the rapidity of invention, the shift of power from promoters and operators to directors of capital accumulations, the steady advance in power and energy, the extension of mass production, the development of high-pressure marketing, the growth of instalment buying, the leaping strides of industrial combination.³⁰ The end is not yet. Change is the rule even of this moment. The business economy travels into the future on the virile and ingenious roads of yesterday and to-day.

V

INFANCY, ADOLESCENCE, AND MATURITY

IF CHRONOLOGY were the most important consideration in the evolution of business economy, the preceding chapters on ancient, medieval, and modern business economies would suffice as background knowledge for a study of the present. But time is not the essential factor which determines the generic processes in the development of business economy.

Not all who lived in the age of Pericles enjoyed the benefits of Athenian business economy. Within six hundred miles of the Athenian market-place, both north and south, there lived peoples who subsisted as tho the world had not advanced beyond prehistoric days. In the thirteenth century, often called the greatest of centuries, when northern Italy was demonstrating to the world how much genius God could infuse into the souls of her sons, there were primitive tribes, even in Europe, thousands of years behind in their modes of acquiring a living.¹ To-day, in the twentieth century, we can find peoples in Papua,² East Australia, East and West Africa, and Siberia, whose system of economy appears to antedate that of any of the tribes of recorded history. A trip through parts of Europe

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in the present year serves to press home the fact that many villages are still "medieval" in economy as well as in architecture, costume, and the "finer aspects of culture." The interior peoples of China employ the same devices of livelihood as were typical of fifteenth-century Europe. In point of economy the Eskimo trails the ancient Babylonian. So far as time is concerned, the evolution of modern business economy has been far from uniform, anything but strictly chronological. Some peoples seem not to have lifted their economies one iota beyond those of the savages, some have advanced a hundred years, and still others a thousand or two.

Nor has geography been any more important as a determinant or as a basic calculator. "In origin, the terms East and West are mere references to the dawning sun and its dusky resting-place."³ Where the adolescent economies of Java, Central Africa, and Yucatan once flourished, we now have little to suggest that those economies might have been hereditary products of particular areas. Tabriz presented a more complicated business economy in the fourteenth century than it does to-day, in spite of the fact that its astronomy has hardly changed.

No doubt a meticulous scholar can discover many fine points of distinction between the feudalism of Japan and that of medieval Europe,

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but for practical purposes the substance of the two orders was the same; the fighting men held the same supremacy in both geographical areas.⁴

At the moment, nearly every national area has its centers of large-scale industry and trade, its sections of infant business economy, and perhaps even its sections of barter economy.

Consequently, in order to supplement and complete our background, some description of the stage-by-stage development of economy is necessary. Only by excluding chronology and geography in large degree, can we, in the purely genetic sense, view the evolution of systems of economy from the simple to the complex.

The most important stages in the evolution of systems of economy are designated somewhat as follows: collectional economy, nomadic economy, settled village economy, town economy, and metropolitan economy. From the point of view of the state of production in these various stages, the sequence is sometimes listed as follows: the stage of direct appropriation, the stage of animal husbandry, the stage of agriculture, the stage of specialized handicraft, and the stage of large-scale power manufacture. These stages are presented in the order of their progress from the simple to the complex. Each succeeding stage denotes an increased complexity over and beyond its predecessor.

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The simplest modes of acquiring a living are not concerned with agriculture, as many ordinarily suppose. All the available records indicate that the crude savage did not and does not sustain life by the cultivation of his fields.⁵ The writings of the hunters and the explorers who have in our times returned from regions where man lives in a simple state attest the same fact. The Eskimo, for example, fits into this category. The ancient Hindus⁶ whom Herodotus described, the Germans⁷ of the days of Tacitus, the Veddahs of Ceylon when they were visited by Robert Knox in 1681, and the Shoshone Indians of California present the same general picture. In spite of differences of thousands of years in time and of thousands of miles of distance, all lived in the same stage and according to the same system—variously called the stage of direct appropriation or the system of collectional economy.

These names are apt and precise because these peoples merely collect or appropriate the products of the earth and waters. The woods and the fields are full of animals which can be killed and used for food, clothing, and shelter. The rivers abound in fish and seals. The trees bear fruits and nuts, and along the ground wild vegetables thrive and grow. It is possible to live in simple comfort by merely cutting down and

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carrying home what Nature provides so bountifully.

There is no organized production. Direct appropriation of Nature's bounties goes on with no effort to modify or increase her gifts. At first, only natural shelters are used and there is no clothing. As more efficient methods of hunting are developed, the use of animals' skins for clothing, for shelters, and for utensils is made possible.

The geographical distribution of animals, the climate, the amount of rainfall, the altitude, and similar factors determine what and how much can be collected or appropriated. Thus the locust-eaters of the Arabian peninsula lived almost entirely on their "flying grain-fields," as these droves of winged insects have sometimes been called. These peoples built huge fires in the caves and narrow ravines. The ascending smoke suffocated the flying insects and caused them to fall by the thousands into the caverns below. Once gathered, the locusts were pulverized and made into cakes.⁸ On the Pacific Coast of North America, the Indians lived almost entirely on fish and game. The natives of Western India depended upon vegetables and rice for subsistence. About the Arctic Circle, the Eskimos avail themselves of a varied diet—fish, seal, walrus, polar bear, musk ox and fox. Niggard as these diets seem to us, they are more

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than sufficient to sustain life. They build hardy men and women.

Direct appropriation necessitates a wandering existence. Relying on the gifts of Nature for food, clothing, and shelter always and inevitably subjects simple man to the whims of Nature. The winds, the rains, and the snows determine the amount of fruits and nuts on the trees, the abundance or lack of vegetables in the ground, and the number and kind of the wild animals in the forests. Currents and tides control the quantities of fish in the coastal waters. When a particular district ceases to yield enough to supply human needs, the collectional man wanders about in search of a district that will so provide. Even as the animals trek northward or southward in search of better feeding grounds, he, too, wanders with them. Improvident and totally unmindful of the value of storage, he is largely dependent upon the animals and the productive lands. If, in his wandering, he finds only barren districts, he starves as do the animals.

There are no masters of hoarded wealth in this system of economy or stage of direct appropriation. No man has more than his needs. Property rights are only vague imaginings and wild dreams. As among the animals of the forest, the strong take from the weak. Indeed, collectional man in his existence is not far removed from

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the mode of the beasts which he hunts. Even as they, he eats what Nature produces. Even as they, he searches for food and partakes of it until his appetite is satisfied. Even as they, he fears what he does not understand and lives in constant dread of the unusual.

Many economists have refused to consider these modes of acquiring a living as representative of any forms of economy. Such conditions so closely resemble animal existence that many thinkers are wont to hold that they precede the advent of economy. But this opinion is scarcely valid. From its derivation the word "economy" means the system of the household, the regulation of the family. The collectional man has a family. He has a household, even tho he may lack a house. He trades with other men, simple as his trading is. It may be a skin in exchange for a wife, a weapon for a handful of nuts, or even a fur for an ornament. He has his own particular mode of existence. Crude as it is, it seems to deserve the name of economy.

Frequently, accidents are responsible for the development of more complicated customs and practises. When, how, or why some people lift themselves above the stage of direct appropriation is unknown. It may be that they succeed in connecting the dropping of a pit with the subsequent appearance of a tree, and then project

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just a little beyond. It may be that a cow, captured alive and kept to be killed a little later, gives birth to a calf and thus the idea of animal husbandry dawns. However and whatever the stimulus, it remains a fact that man takes the step from what is called the system of collectional economy to the more complicated system of nomadic economy, to the more productive stage of animal husbandry.

In this stage, hunting, fishing, and the gathering of fruits, nuts, and wild vegetables continue as in the simpler order. But man, instead of merely searching for and collecting Nature's bounties, begins to aid Nature in their production and preservation. In place of eating all the wild vegetables within reach, man returns portions of some to the earth for purposes of production. He sows seed with the thought of a future harvest. He now keeps in captivity the animals he formerly hunted only when the need arose. By their breeding, he assures himself of a continual supply of flesh. He has goats, sheep, and swine, which follow him wherever he wanders. Or to put it more precisely, he follows them. For in this stage man's temporary habitat depends more upon the amount of food available for his animals than upon his own geographical preferences.

What little agriculture is carried on in this stage is crude, haphazard and unimportant. A

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nomadic life is never conducive to large harvests. The whole process of cultivation is wasteful. The ground is seldom tilled. If weeds spring up to choke the growth, they flourish and spread in unchecked luxuriance. The men rarely engage in planting. The women alone are responsible for any work that is done in the fields.

It is more important to the nomadic man that the animals be captured and domesticated than that the grain be stored. The animals provide meat, milk, clothing, and sheltering tents. Their teeth, horns, and bones can be made into ornaments and utensils. Moreover, the herds and the flocks are more easily protected than cultivated fields or well-stored granaries. At the threatening approach of an enemy man can move his herds to safety, but not his fields and their produce.

Naturally, even the efforts at animal husbandry are makeshift and simple. The breeding of the animals is carried on with no thought of any improvement of the strain. Survival of the fit is the rule of the herd and enforced hardships are many. It is necessary for the herd to wander on driven marches day after day, to be satisfied with scanty fodder and with little or no water. The whole methodology of husbandry is rough and fallow.

The significant change from the stage of direct appropriation is that man becomes provident.

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He begins to look forward to future days with the notion of the hunger and the thirst that they may bring. He attempts to preserve breeding animals and to some extent germinating seeds.

Bartering, too, continues with slightly more thought of the productive value of goods to be bargained for in the process. If a man possesses more cattle than he cares to tend, he exchanges several head for a slave whom he puts to work cultivating the fields. If a man needs more women for the planting, he barter whatever he can part with for them.

At the advent of the white man on this continent, many of the North American Indians were living this nomadic existence. To be sure, the men-folk were hunters rather than herders, but the women-folk cultivated maize and corn in the fields. The Hebrews of the post-Egyptian period were mainly nomadic in their economy. They depended upon their flocks more than upon their fields. The Goths and the Huns were living in this stage when they descended upon Europe from the north. The Kelts who left Gaul and became the progenitors of the English were nomads as late as the fifth century B. C. The Greeks passed beyond this stage before the time of Homer. However, many of the tribes in the hinterland of Algeria^o have gone beyond their nomadic existence only within the last century.

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Throughout Asia and Europe there are many groups still living in terms of nomadic economy.

The next step forward in the evolution of a complicated economy is the step to the settled village economy or the stage of agriculture. Exactly how this step is taken is also largely unexplainable. All we know is that the discontinuation of nomadic life and settlement in villages has been going on since the dawn of recorded history and that it is going on to-day. We can only conjecture with respect to its causation. Does the nomad begin to realize that his cattle are less subject to disease and death when confined to one district? Does he begin to see that crops tended throughout the year in one general location are more productive and feed more people than shifting cultivation makes possible? Does he begin to recognize the increased possibility of defense against marauding enemies which the settled village offers? All these are pertinent questions that express possible incentives.

The characteristics of the settled village economy are many. Huts replace tents and offer better facilities for defense. Closely grouped together, they provide the defender with an advantage over the attacker. A community of interest begins to develop. Everyone contributes to the improvement of the village area because everyone benefits by the improvement.

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The cultivation of the fields assumes more importance. The free males assist the women and the imported slaves in the care of the fields. They clear the trees away for the planting, altho they still herd the animals, and fight and hunt. Each family possesses its own plot of ground for cultivation. The seed is planted and more carefully tended until the harvest. Little effort, of course, is put into the improvement of the soil. New fields are still used as soon as old ones become worked out or overgrown with weeds.

The location of the village is determined to some extent by the availability of water, the presence of a well, spring, or brook. Of course, many villages spring up at considerable distances from available water. The natural defenses offered by the hills, by the rocky mountainsides and ravines, are often too much of a temptation to be resisted by the settling nomad. The physical layout of the village varies in different parts of the world. When keen judgment is used in the choice of site, or when mere chance leads to a spot rich in fertile soil and good water, the village houses or huts tend to group closely together about a central field in which the animals graze and on which cultivation is practised. Where land is poor, the village scatters its people over a large area.

Many features of nomadic life remain. When

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the fields do not yield enough fodder, the animals are driven off to better pastures. Such is the practise in Tibet to-day. The cattlemen who live on the mountainsides begin moving down into the valleys at the approach of winter. By midwinter they are down in the lowlands, and there they remain until the sprouting grass on the mountainsides invites them home again.

Hunting also continues, but gradually loses its importance as the chief means of securing food. Fighting, too, persists to occupy much of the attention of the men. The Welsh of Owen Glendower's days and the Irish at the time of Strongbow's incursion practised the settled-village modes. These peoples left the field work to the women. There was sufficient fighting to occupy the men-folk from one end of the year to the other. The Indian villages in North America, described by the explorers and colonizers of New England and upper New York, also typify the settled-village economy. In this instance, also, hunting was not relegated to the background as a means of providing food. The Indian brave engaged in hunting almost continually: he left the cultivation of the corn, maize, and millet to the squaws. Unlike their fellow men on the other side of the Atlantic, these American redskins never became herders. They domesticated only dogs. All the other animals were the prey of the hunt.

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The life of the settled village brings in its wake the serious evil of disease. In nomadic economy man leaves his accumulations of filth behind him as he moves on to new locations. He is scarcely long enough in one spot to suffer any ill effects of his unsanitary habits. But in the settled village man must breathe the air and drink the water which he pollutes. Inevitably, the mortality rate in the settled-village stage is extremely high. Whole villages are denuded of people by typhus. With but the rudiments of medical knowledge, man can fight disease only with his native and God-given strength of body.

Inevitably, the peoples of those villages which are widely separated from the customary trails of wandering pillagers, or whose fortifications are highly impregnable, begin to use the time no longer needed to defend their homes and possessions, in the pursuit of economic improvement. Man commences to pay more attention and to give more effort to the cultivation of the fields. Coarse grains are grown as winter feed for the cattle, to supplement the scanty herbage of the frosts. Grains, vegetables, and fruit are cultivated for use. The principle of land-resting permeates the mind of men. Acreage is allowed to lie fallow or is turned over to grazing at intervals between periods of use for tillage. Agriculture holds full sway, and the domesticated animals are put to its work. Oxen pull out

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the tree-stumps and the large stones. They haul the simple plow. The cattle manure the fields. The goats clear the ground for planting by the simple process of eating everything that happens to be under their hoofs and noses.

Because grains must be cooked before they are eaten, the art of cookery develops. Wool is spun. Garments are made of cotton, linen, or silk, depending upon the geographical environment of the village. Homes are furnished and various utensils are used for cooking and storing food. "The important fact that homes are settled means that possessions can accumulate—a great incentive to consumption." ¹⁰

It is in this agrarian stage that feudalism usually develops when it visits a certain people. The weaker and more exposed villages turn to some powerful chieftain for protection against the sporadic attacks of wandering tribes, so that steady economic progress may continue. Such villages can ill afford to be squeamish about notions of liberty. They give their fealty willingly to anyone who is strong enough to ward off the attacks of the predatory strangers. In return for the security promised by a powerful lord or baron, the villagers give to him a certain amount of their time and effort. They till his fields, tend his flocks, and repair the fortifications about his castle. They help to feed and

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maintain their protecting chief or lord and his personal retainers.

Gradually, an important economic change is effected. Instead of receiving all the benefits of their personal labors, many villagers pass on a part to a new class of non-producers. Nevertheless, security is so important, that the villagers count it worth a day's work each week or even more. Man is no longer free. The entering wedge of feudalism comes into his life. The interests of his overlord are not sharply confined to the amelioration of the condition of his village life. Still, new and somewhat beneficial institutions appear in this process of exchange of obligations. Courts develop, and instead of settling village disputes by might, man takes his grievances to his court. The overlord or chief is judge and jury. The court supplants the family feuds.

And so the settled-village economy becomes the antithesis of nomadic life. Feudalism matures and molds its institutions. The villagers cannot leave their lands when they wish. They cannot divide or sell their fields without their lord's consent. In many districts the lords and chiefs by right of might sequester part of the village property as their own, and the villagers with their land become possessions of the master.

Unjust as these conditions seem, they are certainly responsible for more intensive cultivation of the fields. The commoner who cannot leave his

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land makes it produce as much as possible. He learns to store his foodstuffs. He realizes that the size of his fields limits the number of animals he can keep. He slaughters, smokes, and stores his excess.

Because of the limitations of their fields, some of the subject-villagers find it necessary to eke out a living for their families by supplementing cultivation with manufacturing activities. In leisure moments they begin to fabricate tools, pitchers, baskets, shoes and clothes for purposes of exchange. Those who find themselves apt at building repair their neighbors' huts in exchange for measures of wheat. However, there is little division of labor, and these tasks are leisure tasks rather than specialized occupations. For the most part every family makes its own consumption goods. If specialized occupations appear, they are usually concerned with facilitating the making of productive goods. In most cases the office of a blacksmith or tool-maker is the first industrial occupation.¹¹

Haphazard bartering continues. Goods are exchanged for goods, a hide for wheat, a pair of boots for a crude ax, a goat for a plow, and so on. "Intramural" trade is the only trade, because the whole village remains self-sufficient.

Complex as it is, the settled-village economy is not destined to remain the highest form of econ-

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omy. The agrarian type of production soon emerges into the stage of specialized handicraft. Very quickly, many of the village communities grow beyond themselves. Locations on the seashore, the river bank, the main highway or caravan route, change the village from an agricultural to a commercial unit. As the village grows in population, wants increase in amount and variety. Family self-sufficiency becomes difficult. The so-called division of labor begins. It becomes evident that a man who is a shoemaker six days a week succeeds in turning out a better pair of boots than the farmer who turns cobbler but one day a month. The former villager who inclines towards craftsmanship gives up his cultivation and drifts away from the village and into the town. The villager who inclines more towards cultivation than towards craftsmanship begins to give up his attempt to supply all the needs of his household by the work of his hands, devotes a larger share of his time to his fields, and depends upon the town for many of his consumption goods.

During this stage there may be at first something of a tendency for groups to specialize in some particular form or forms of production, "as the Greeks specialized in fine arts, the early modern English in woolen textiles, the Chinese in paper and pottery." ¹² Nevertheless, the town, as such, is still pretty much self-sufficient. Every

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needed task finds willing specialists, who work in their homes and sometimes even in establishments "such as the factories for the production of pottery, the ruins of which have been found in Greece."¹³ Better boots, better clothing, better carts, better farm implements become the handicraft ideal.

Men begin to specialize in buying and selling as well. Definite retailing locations are established. Designated produce markets, which are indicated by the "market cross," appear. Commodity money and coined money are more widely used. Instead of going to the farm for vegetables, to the herder for lambs, or to the seacoast for fish, man depends upon his visits to established and specialized retail markets, the vegetable stand, the butcher shop, and the fish mart. Middlemen thus commence to break away from cultivation and fabrication and make subsistence profits in commodity or coined money which may be used to secure family necessities. In fact, one of the chief points of difference between the agricultural village and the commercial town is that the latter houses many non-producers in the sense of cultivation or fabrication. Many men become mere handlers who buy from all and sell to all.

Various sections and streets of the growing towns are finally commandeered by particular industries. The hosiers, the drapers, the gold-

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smiths, and the fishdealers localize their places of business. The proximity of location and the identity of occupation unites the handicrafts and also the tradesmen. Craft and merchant guilds develop for purposes of mutual protection.

For the proper development of handicraft and trading the town needs more freedom than the settled village. Accordingly, wherever feudalism exists, in the process of transforming the village into the town, there is a constant effort to procure more privileges from the lord or abbot master. The struggle for freedom usually culminates in a grant of freedom secured by threat, actual revolt, or purchase. Economically, the town becomes independent of a feudal overlord.

For a time it attempts to work out the ideal of town self-sufficiency, but before long it realizes its dependence upon the surrounding countryside and upon the production of other towns near by and far away. An increasing use of coined money in trading, a developing emphasis upon money-profits, a continuing expansion of town-production, and a rapid growth in the variety of man's wants completely break down the ideal of town self-sufficiency. Local barriers fall with a crash as business men reach out in search of money-profits. Roads are improved, bridges are constructed, and rivers are deepened. The process of linking town to town goes

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on apace to prepare the way for a still more complicated economy.

The rapidly-growing town soon comes to be known as a metropolis. This term originally meant "mother-city" and was used to designate a city whose sons had founded other towns or cities. Tyre was thus the mother-city of Carthage, and Troy of Rome. As the years rolled on, the meaning of the word changed, and metropolis came to be used in the sense of "chief city," a large city surrounded by smaller cities and towns which depend upon it and use it as a central agency for trade.

The kind of economy that is characteristic of the metropolis is vastly more complicated than that of the town. As population increases and people pile "high up on one another in cities," business organization and technique are rapidly elaborated and expanded. To provide the physical goods necessary to the life and comfort of "an increasing mass of landless, toolless, and homeless people dependent upon the caprices of trade" is an enormous task. Wholesaling as a business enterprise assumes an immediate importance. Merchants must buy and keep in stock large quantities and wide varieties of all commodities.

The necessity for carrying produce into the metropolis and for distributing some of it out of

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the metropolis again to the dependent towns and villages brings into being the "common carrier." It is no longer profitable for each merchant to own and operate his own ships and wagons. Transportation becomes a specialized activity and entreats inventive genius to furnish motive power. The winding and narrow streets of the town give way to broad, paved thoroughfares. Attention is turned to communication with dependent towns and other metropolitan centers.

Steam soon comes to the city, and the era of large-scale power manufacture is born. The machine age dawns upon the city, and sets up a new stage of production. The machine is thought out before it is made. It is a specialist. It is a fast and continuous worker. It is capable of concentrating energy. And it is independent of human energy. The first results of manufacturing by power machinery are the breakdown of domestic handicraft, and the concentration of population in the cities because the workers must live near their factories. "Steam culture demands great, roaring cities."¹⁴ Workers forsake their farms and drift into the city factories. Women and children leave the home and accept employment in the mills. A staggering amount and an amazing variety of machine-made goods pour forth from the city factories to be transported to the ends of the earth. The specialization of labor continues, but there is even more

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specialization by machines. As a result, goods are produced far more quickly and cheaply than ever.

Man becomes increasingly dependent on the city and its public activities. There is danger from impure food which passes through the hands of many middlemen. Weights and measures must be inspected. New health problems arise. The control of vice and crime presents a perplexing and costly social question. Fire hazards spring up on every side. Streets must be better paved, lighted, and policed. New means of transit must be provided.¹⁵

The individual loses his economic self-sufficiency and independence. He becomes an employee. He no longer owns his tools or even his home. His daily life is regulated by the clock and the whistle. His work is highly specialized. His home is often merely a cheaper rooming place than can be had elsewhere. If he can "count his change," pull a lever, and "recognize a delicatessen store" when he sees one, he can survive in the city with far fewer skills than can the primitive man in the stage of direct appropriation.¹⁶

One and all must live by making and spending money, for the city suddenly becomes minutely specialized in production and marketing. The business or money-profits economy comes of age.

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As the smoke rises, we find a surprising new phenomenon—the cardinal importance of cash. . . . A farmer with a loom in his house is not primarily dependent on cash. He needs a little of it every year, but he can feed and clothe his family without it. A mechanic in an automobile factory, a shopgirl in a department store, can hardly get through the day without money. A cashless week may find them starving. No part of their daily labor provides them with consumable goods. They do not make anything which they can eat or wear. Edibles and wearables can only be secured with the money which must first be found. Invariably this leads to the enthronement of money as the most important thing in life. As indeed it is in a specialized economy: as indeed it is not in the ultimate scale of human values.¹⁷

And then, just at the moment when “the belching smokestack” is generally accepted as the symbol of the city, new sources of power arise. Electricity and the gas engine knock at the door of the city, and announce themselves as willing “to emancipate mankind from utter dependence upon the fixed plant and railway.”¹⁸ Electric power begins to distribute its magic force to shop, loft (the city’s new manufacturing establishment), and home. It even transmits power in any quantity to the surrounding rural districts. The gas-engined trucks spread out over a new network of paved arteries, even unto the lowliest general store at the crossroads.

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With amazing rapidity the motor-truck and then the commercial airplane "break down the barriers recently erected between city and country by the steam engine, checking the rate of concentration in the great municipalities and strengthening the economy of the small town." ¹⁹

Aided by power and the machine, the basic principles of mass production—the making of standard interchangeable parts and the assembling of these parts into the completed unit with a minimum of handicraft labor—are applied on an ever increasing scale.²⁰ Aided by power and the machine, the principles of mass distribution—branch warehousing, sale by description through ultimate-consumer advertising, and even automatic retail vending—also are applied to distribute the flood of goods. Metropolitan trading customs, metropolitan goods, and metropolitan financial practises spread out over the entire country and into its every "nook and cranny."

We are clearly living at the present moment in the stage of large-scale power manufacture under an advanced business or money-profits metropolitan economy, which is gaining ground in all quarters of the globe and in every section of our nation. When we look back upon the enormous increase in the electrification of industry, the rise of the Diesel engine, the astounding multiplication of international cables, the bewildering growth of the radio, and the stu-

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pendous advancement of aviation, and then peer forward into the future to vision an airport on every other roof, we hesitate indeed to tag our next step with any definite name. We can only presume that the more complicated stages to come will retain most of the present fundamental essentials of a business or money-profits economy.

VI

THE BUSINESS ENTERPRISE

SOME unit of organization is necessary to furnish the initiating urge, the consistent driving power, and the guiding direction for the performance of society's "business" tasks. The process of making and spending money involves all the many and varied institutions of production, exchange, and distribution. It calls for an effective coordination of the factors of labor, capital, and brain. Even in the simplest business undertaking there is need for some unit of organization to vitalize the complicated activities of the whole endeavor.

In our present business or money-profits economy the characteristic and dominant unit of organization for *making* money is the business enterprise. The origin of the term harks back to the old English word "enterpriser," commonly applied to the "adventurer" who embarked in the uncertain argosies of foreign trade. In current usage, however, *business enterprise* has taken unto itself a precise and definite meaning. "A business enterprise is an organization which seeks to realize pecuniary profits upon an investment of capital, by a series of transactions concerned with the purchase and sale of goods

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in terms of money.”¹ The “transactions” of the business enterprise may, in fact, be the execution of any one or of any combination of the following functions: fabricating, assembling (buying), distributing (selling), storing, sorting and grading, traffic control, financing and risk-taking. The “goods” in which the business enterprise may deal may be “commodities of any vendible kind” from spats to pig-iron, functional services of execution, technical advice, or even “rights” such as bank credit, securities, or insurance.

The chief incentive of an adventuring business enterprise is, of course, the desire for profits. It is possible to think of economic enterprises as owned by the government and operated by commissions, as owned by the government and operated by committees of workers, as owned by the government and operated by “some elected despot.”² But in our present business or money-profits economy, business enterprises are owned and operated by individuals or collections of individuals. According to the laws of private property, the fruits of their ownership and of their operation of business enterprises belong to them. These fruits or profits furnish the incentive to business undertakings.

In any high development of a business or money-profits economy, production comes to be carried on by the business enterprise rather than

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by the family. Exceptions, of course, persist as continuations of earlier economic orders. The domestic work of housewives, the farm production of produce for home consumption, the cultivation of vegetables in family gardens, the leasing of farm land by tenants who pay as rent a share of the crops—these are productive concerns of the family. In such survivals of exchange by barter, the family is still the dominant unit of organization. Generally speaking, however, the family has been definitely superseded by the business enterprise as the dominant unit of organization for *making* money.³ The business enterprise coordinates the efforts of a number of individuals drawn from several or many families. It pays each individual a money-income and consciously coordinates his efforts with the efforts of several or multitudes of others.

Every individual who is working on his own account, whether he be farmer, lawyer, pedler, newsboy, certified public accountant, author, or what-not, may be classified as an "enterpriser." Such an individual obtains a money-income by buying and selling goods or by selling his services. However, these individual and small-scale business enterprises are few in number and are scarcely typical of "business" in our present money-profits economy. In general, they are sharply confined to farming, the professions, personal service, repair work and petty trade. In

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all probability the number of men working on their own account did not exceed 11,000,000 in 1920.⁴ These small-scale business enterprises have been pushed into the background by the growth of corporate ownership and large-scale production. Altho the small business enterprise rests upon the same basic feature of modern economy as docs the large-scale enterprise, namely, the private ownership of tools, the small-scale business enterprise differs in broad essentials. "In commercial alertness and business method, in complexity or organization, in dependence upon the money market, the typical farm, repair shop, neighborhood store, and boarding-house are in a different class from the enterprises typical of mining, manufacturing, commerce and finance."⁵

The characteristic business enterprise of the present is the large-scale business enterprise. In manufacturing, statistics show us that in 1921, less than 3 per cent. of our plants turned out more than 59 per cent. of our total manufactured products. About 20 per cent. of our plants produced more than nine-tenths of our total manufacturing output. The manufacturing map of the moment is that of a network of enormous factories under corporate ownership and operation, rather than a map merely dotted here and there with "isolated plants owned by natural persons engaged in competitive production to meet local

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needs.”⁶ In the fields of railway and marine transportation, large-scale business enterprises have a sway which is almost complete. In mining, lumbering, construction, warehousing, wholesaling, insurance, and banking, the large-scale enterprise is the dominant enterprise, altho it is not the sole performer of business activity. To a somewhat lesser degree, it is also important in retailing, journalism, fishing, market-gardening, hotel-keeping, and in the various and several amusement fields. Of late, too, the pecuniary advantages of large-scale business enterprise have been widely sought in dairying, fruit-raising, general farming, and even in many of the so-called learned professions—engineering, law, medicine, education, and architecture.⁷

In any quest for profits the array of advantages offered by large-scale operation is imposing and enticing. It is small wonder that modern business men in their efforts to play first fiddle in competition and to secure the economies of large-scale operations have made the large business enterprise the characteristic unit of the times.

Developing forms of external organization have made large-scale enterprises possible. So far as form is concerned, society allows individuals and collections of individuals to organize business enterprises in a number of different ways. Law is perhaps our strongest and most

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definite form of control, so that it is not surprising that the law is used to a large extent in defining what each form of business enterprise is so far as its organization is involved and in stating what each form may or may not do.

The oldest and simplest form of organization is the individual proprietorship. This type of organization existed long before any name was applied to it, and even to this day it is governed very largely by common law, altho many statutes also limit and define an individual proprietor's relationship with others. While it is true that many companies that employ thousands of workers and use thousands of dollars of capital have grown up under the direction and control of single individuals, this form of organization is commonly used by small manufacturers, by professional men, by small retailers, and by farmers. In this type of organization, unhampered power is concentrated in the hands of one individual. The proprietor is his own master, but generally his kingdom is a small one, and rarely does it extend beyond his immediate neighborhood. The limitations of this form of organization are many. In the first place, there is a limit to the amount of capital one man may command as compared with what may be secured by a number of men. Again, an individual may need more help than he can secure from paid employees and may attempt to carry too much upon his

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own shoulders. A great risk is involved where so much depends upon the health and life of an individual proprietor. Moreover, in case of failure, the individual proprietor's whole personal fortune is at stake. All his assets, over and above any amount he has put into his enterprise, may be called upon to pay his creditors. Because of these limitations, individual proprietorships are often short-lived. They are easy to form and easy to end.

When an individual proprietor feels the need for an associate who will help him bear his business burdens, or when he sees an opportunity of expanding his business by putting up another building, equipping it with more machinery and hiring more men to work for him, he begins to look about for a moneyed friend or acquaintance who may be willing to come into the business as a partner. A partnership is an association of two or more individuals who are jointly and severally liable for the management of the enterprise in which they are engaged. Each partner invests a certain sum, not necessarily equal in amount to that invested by any other partner, and signs a legally-binding contract which states the purpose of the partnership and the rights and duties of the partners. Each partner is liable for the entire debt of the firm. One partner, either stupidly or with criminal intent, may secretly sign a contract that will bring financial

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losses to the partnership. No matter how much the other partners may protest, the individually-signed contract is binding upon the other partners individually and severally. Then, too, since a partnership is based upon a contract among several persons, the partnership automatically ends when one partner withdraws or dies. A live business is more valuable than a dead one, and the sudden dissolution of a partnership may be very embarrassing and harmful to the remaining partners. Finally, partners cannot be multiplied indefinitely, or too many cooks will spoil the broth.

The joint-stock company is a kind of expanded partnership without some of the disadvantages of an ordinary partnership. This form of organization grew up in England, as has already been noted in Chapter IV. In its basic form it was used in many fields of business until 1862, when Parliament accepted the principle of limited liability of stockholders. In this same basic form it has never been popular in the United States. The joint-stock company divides the capital into shares, and as many persons can take part in the enterprise as there are shares. It is possible, for example, for a company with a capital of \$1,000,000 to divide this capital into shares of \$100 each and thereby to have as many as 10,000 owners. Even a hundred owners can hardly expect to manage a business jointly as

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partners, so in a joint-stock company the share-owners elect representatives, according to the regulations of the by-laws, and these representatives (the board of directors) manage the enterprise. In this respect the owners are not partners, for they have no share in the management. In another respect they are partners, for they are responsible for the debts of the company, even with their personal and private assets. Shares may be sold from one person to another without ending the life of the company, so that it is possible for this kind of organization to exist indefinitely.

It seemed hardly fair to our business forefathers that a man who owned only one share in a joint-stock company should be individually liable and responsible for the company's debts. Therefore, they created a new form of company called the limited-liability company. Even before 1800, the ordinary partnership and the joint-stock company form of expanded partnership were recognized as incompletely meeting the needs of a developing business that demanded larger capital funds and a greater certainty of duration. Accordingly, certain States, by statute law, authorized forms of organization still bearing the word "partnership" in their titles but limiting the liability of the partners and making it possible for the enterprises to continue in the event of the death or withdrawal of a particular

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partner. These special acts of various State legislatures need not concern us here, except that we should note that they indicated a feeling towards the corporate form of organization. Not long after 1800, general laws were passed providing for the establishment of corporate business enterprises.

Corporations are, then, formed under the laws of the several States. At the request of a prescribed number of individuals, and after the performance of certain stipulated formalities, a particular State government creates a corporation by issuing a certificate of incorporation. The formulated corporation is legally an individual, with many of the prerogatives and obligations of an actual person. It may enter into contracts as an individual entity, it may sue in the courts, it may be sued for damages, and it may commit a crime. The capital or money with which it begins and continues its business activities is supplied by persons who receive shares, commonly called stock, in exchange for the cash or other property invested by them in the corporation. These shares give their holders a proportion of the total ownership in accordance with the relative amount of stock owned. An individual may own one share or he may own many. His rights depend upon the number of shares he owns. His principal rights are to help elect the directors who are to manage the affairs of the

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corporation, and to share in such profits as may be distributed to stockholders. The corporation is managed by the board of directors and such other officers as are employed by the board.

The corporation differs from other forms of business organization in a number of important essentials. It is a permanent organization and continues even tho its promoters die or retire. The transfer of shares from one owner to another has no effect upon its life. Its charter from the State may possibly run only for a limited time, but usually it can be easily renewed. As has been indicated, the liability of each stockholder in the corporation is limited. The individual stockholder is liable only to the amount which he has actually paid in or which he has pledged in return for stock. Beyond this amount he is not liable, no matter how much the corporation may owe. The principal exception to this statement of liability is an incorporated national bank, in which each stockholder is liable for twice the amount of his stock subscription. Finally, there is no limit to the amount of capital a corporation may obtain. This form of organization is particularly well adapted to gather huge amounts of capital from thousands of investors. The possibility of using different types of securities with varying rates of return, and the possibility of issuing these securities in

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small denominations, makes it easy to reach differing types of investors.

If a corporation makes profits through its business operations, some or all of these profits may be left in the corporation, or some may be distributed to the stockholders. Profits which are left in the business are called *surplus*, to distinguish such amounts from the capital stock originally subscribed. Profits which are distributed to stockholders are called *dividends*. Payments of dividends may be made from accumulated profits but cannot legally be made from the original capital. Dividends may be paid in scrip (an unsecured interest-bearing note), in additional stock, and in property, as well as in cash.

In general, there are two kinds of corporate securities—stocks and bonds. Stocks represent shares in the ownership of the business; bonds represent loans to the corporation.

Frequently, corporations issue *preferred* as well as *common* stocks. When preferred stocks are designated as *preferred as to dividends*, the owners of such stock must receive their dividends out of the first profits earned by the corporation and distributed by the directors, but only up to some previously stated amount—usually from six to eight per cent. If the preferred stock is *non-participating*, the owners of it cannot receive more than the stipulated percentage

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of its face value, no matter what the owners of common stock may receive.⁸ However, if the preferred stock is *participating*, the owner of it may receive a portion of the profits in addition to the stipulated percentage, this additional payment being determined by the percentage of dividend given to a share of common stock or on the basis of some other "ratio which the organizers may have provided."⁹ Often the preferred stock is *cumulative*, which means that if preferred dividends are not paid at the stipulated rate in any year or in a number of years, they mount up as a cumulative total and constitute a claim on the corporation's future earnings—a claim that must be paid before the common stockholders can receive any dividends. The owner of preferred stock is still further protected if his stock is *preferred as to assets*. In case of bankruptcy, the holders of such stock are entitled to receive the par value of their stock holdings before the common stockholders can "receive any of the proceeds of the liquidation."¹⁰

As a rule the control of the management of a corporation is in the hands of the owners of common stock. Voting power is generally given to the common stock, and each share of common stock normally carries with it the right of one vote. Sometimes, in order to keep the voting control in the hands of a small group "without com-

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selling them to own a majority of the whole common issue," the common stock is divided into two classes, A and B, and the voting power is given to one class only. The owner of common stock assumes more risks than the owner of preferred stocks, but if the activities of the corporation are highly profitable, such an owner may receive very much more in dividends and in appreciation of stock value. In many instances the dividends on common stock vary considerably from year to year, but some corporations follow the practise of creating reserves in highly profitable years, so that a steady rate of dividend payment on common stocks can be maintained.

Bonds are also used by corporations to obtain the capital necessary to carry on their activities. They are promises to pay a definite sum of money at some future date and to pay interest upon that sum of money at the rate fixed in the bond. When an individual borrows money on a house, he usually secures the money from an individual person or bank and gives his promissory note with his mortgage. A corporation, however, that borrows millions, gives a mortgage on its property, but splits the total sum of the loan into a large number of separate bonds or notes. Bonds, then, are subdivisions of a large loan, issued in convenient denominations of \$100 or \$1,000, for example, so that they can be sold to large numbers of people. Bonds are usually se-

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cured by specific assets of the corporation. Sometimes they are issued against collateral—other stocks and bonds owned by the company. Often they are simple debenture bonds, constituting merely general claims against the corporation.

One other form of organization of business enterprise which should be mentioned is the cooperative society. Recently the laws of the several States have begun to be adapted to the new form of corporation known as the cooperative association or society, an organization of producers or consumers for joint economic action. An attempt is being made to bring about the adoption of a uniform enabling act for cooperative societies, and already similar laws have been placed on the statute books of about two-thirds of the States. The most important types of cooperative associations or societies are concerned with handling and marketing producers' products, or with cooperative purchasing for consumers, or with cooperative credit.

The aim of the cooperative society is the same as the aim of any other type of business enterprise: it seeks to realize pecuniary profits. Frequently, however, these societies are referred to as "non-profit" organizations. The meaning here is simply that any profits (savings) beyond a moderate return on the invested capital do not remain in the hands of the association or society itself, but go back to those individuals whose

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patronage created such profits (savings), not as percentage dividends on stock owned, but on some basis commensurate with the volume of business contributed. This is ordinarily accomplished by operating the cooperative association on a deferred-payment basis, which permits withholding from sales or purchases enough money to cover expenses. After all charges are met, including dividends on stock at ordinary interest rates, the balance of the profits (savings) are distributed to the individual members on the basis of the amount of business contributed by each member. Ordinarily, the control of the cooperative association is vested in the members irrespective of the amount of stock that may be owned. This is particularly true of most of the agricultural-marketing cooperative associations, which usually give each shareholder one vote and no more, regardless of the number of shares he may own.

In 1925, the United States Department of Agriculture reported that 10,803 cooperative associations were engaged in the handling and marketing of farm products, with a total membership of about 2,450,000 farmers. Some 1,200 cooperative purchasing associations were also reported among the farmers by the Department. In 1923, some 10,000 building and loan societies—the usual form of the cooperative credit society

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—were in existence, with a total membership of nearly seven million persons.¹¹

Altho there were but a handful of corporations in existence in the United States a hundred years ago, this form of organization of the business enterprise overshadows all others at the present time. As for mere number, corporations are still outnumbered by individual proprietorships; but with respect to the number of wage-earners employed and the value of the goods or services produced or handled, the corporation leads all the rest. In 1920, corporations owned 32 per cent. of all American manufacturing establishments, employed 87 per cent. of the wage-earners, and turned out 88 per cent. of the value produced. In mining, corporations owned 51 per cent. of the mines, employed 94 per cent. of the wage-earners, and produced 94 per cent. of the product. In transportation, corporations did 95 per cent. of the work. Farming reported 12,376 existing corporations, retailing (not including department stores) reported 50,604, domestic service reported 7,298, amusements reported 5,258 and the so-called "professions" reported 10,510. In all probability, the corporation to-day performs between 50 and 60 per cent. of the total work of American business.

The prevalence of corporate organization has made it easy for business enterprises to follow the path of group development. It is hardly

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surprising that combinations of single business enterprises are growing so rapidly, for business leadership is increasingly seeking those large-scale "elements of strength and security that express themselves in economies and profits."

Combinations of business enterprises have been built up in the main by five different methods: simple agreements, pools, trusts proper, holding companies, and outright consolidations.

The "gentlemen's agreement" is the simplest form of business combination. The various executive officers of a number of single business enterprises merely enter into an informal agreement on matters of common concern. No formal papers are signed by any party to the agreement. Such agreements often involve promises not to invade a rival's territory, not to cut below certain prices in competition, not to expand production facilities, and not to approach a certain group of prospective buyers. These agreements are hard to detect, but usually they are short-lived, because they depend entirely on the extent to which each member abides by his pledge. In the early history of the iron, steel, and anthracite-coal industries, it was a commonplace statement that there was more "honor among thieves than among these makers of gentlemen's agreements." ¹²

The so-called pool is another form of early business combination. A pool is formed by draw-

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ing up—among the executives of a number of competing business enterprises—a pooling agreement not to compete with each other. Each signing company retains its own identity, but agrees to turn over to a central organization or Board of Control the power to establish the total output for the ensuing year and the power to allot to individual members of the pool certain sharing percentages of the total output. Pools have been annual agreements, in the main. In most cases they have been ineffective, because of individual infractions of the agreement. In 1890, pools were made illegal by the Sherman Anti-Trust Law.

The first “trust” was formed in 1879 as the Standard Oil Company. For purposes of control, about thirty different business enterprises were gathered together under a board of trustees who held the stocks of the several enterprises in a trust relationship. These trustees received the stock of each shareholder in each of the thirty combining enterprises, and issued to each shareholder a trust certificate. Since the trustees then held the stock in the original companies they had the power to operate the combined concerns as a unit, to declare dividends, etc. During the decade following 1879, many hundred trusts were organized. Much popular opposition to the trust soon developed, for people felt that its objects were to create monopolies, to stifle compe-

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tition, and to raise prices. Many States passed anti-trust statutes of different kinds, and in 1890 the Sherman Anti-Trust Act made illegal any combination which lessens competition or is, in the legal phrase, "in restraint of trade." In June, 1890, the New York State Circuit Court of Appeals declared the North River Sugar Refining Company, a "trust," to be illegal on the ground that a corporation must be controlled by its directors in the interests of its stockholders and that its directors cannot "delegate their powers to trustees or serve others than their own stockholders." ¹³

Very quickly after the trust proper was judged illegal a new form of combination appeared—the holding company. Corporations were formed with the stated purpose of acquiring and owning all or a majority of stock in a number of business enterprises. This form of organization was legal, for the holding company does what it is incorporated by the State to do. Nevertheless, while the form of this combination is legal, the activities of such a combination are subject to check under the Sherman Act, the Clayton Act, and other anti-trust laws.

The development of the holding or parent company, the creation of financial alliances between independent enterprises by an exchange of stocks, and the consolidation of independent enterprises, have all gone on with amazing rapid-

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ity and have wondrously entangled financial relationships among business enterprises.

The desire to control preliminary or subsidiary processes has resulted in what is called the vertical consolidation, the combining or "integrating" of the various enterprises that are engaged in the production of a product, from the raw-material stage to the stage of finished goods. This kind of consolidation combines enterprises that operate at different stages. A shoe-manufacturing company, for example, may integrate backward and acquire tanneries, or it may integrate forward and acquire retail shoe stores. Either or both processes of integration will produce a vertical consolidation. The desire to control output and prices within a given market results in a horizontal consolidation. Such a consolidation is based upon the elimination of competition and would in all probability at once run counter to the anti-trust laws. A typical horizontal consolidation would be that which included all the automobile plants in the United States. The desire for the economies of large-scale marketing are responsible for the latest type of consolidation, sometimes called circular consolidation. These consolidations appear not to be concerned with acquiring raw-material enterprises or retail stores, nor with eliminating competition. Apparently, their aim is to control a number of non-competing products on the

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ground that the same salesman who visits the wholesaler or retailer might "as well handle a dozen or score of articles as one."¹⁴ The evolution of the Postum Company into the General Foods Corporation is a good example of this type of consolidation.

Obviously, the principal causes of consolidation—the desire for the economies of large-scale production and large-scale marketing, the desire to control preliminary or subsidiary processes, and the desire to eliminate competition within some market—are vitally powerful factors that will grow in importance as the years roll on.

The day of industrial giants is arriving posthaste. The reasons for industrial combination are so impelling that most of the obstacles to it seem by contrast only molehills to be crushed under the steam-roller of economic inevitability. Economically, consolidation is sound. To the individual owner of business it offers safety and profit. Financially, it has no reasonable limit and can be productive of great profits. Such a triangle of forces presents a solid base indeed for the construction of new giant industrial enterprises.

What the character of the consolidations of the future will be it is not difficult to say. . . . Where competition requires the linking of all of the production and distributing processes, vertical merger will be the rule of the industry. Where competition has reached a dangerous point in profit possibilities, or where size is necessary for increased productive efficiency,

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horizontal consolidation will be the prevailing type. Where the problem of distribution and the opportunities for profit through the use of highly skilled management suggest industrial integration, circular consolidation will be an outstanding development.²⁵

VII

THE RÔLE OF MANAGEMENT

MILLIONS of people have read Elbert Hubbard's *Message to Garcia* and have been vitally stirred by its central thesis. The point of the story lies in the fact that Rowan accepted his assignment, shouldered its risks, and carried it through. Overcoming many difficulties, he found Garcia and delivered the message. He finished the task. Had he subscribed to the philosophy that "it is better to travel hopefully than to arrive," the story might never have been written.

The business manager must enter upon his quest for profits in much the same spirit. Like Rowan, he must accept his responsibilities willingly and he must see his tasks through.

He must be a good finisher, for *his task is not successful until it has been completed and is measured by its results, which should be profits.* Of course, as a man in a spiritual way, he may have gained greatly by failing; but as a business man, he only gains (and the community only gains) by his being a successful finisher.¹

The survival or extinction of a particular business enterprise is determined by the financial test of profits. And the primary and major re-

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sponsibility for the pecuniary success or failure of a business enterprise rests upon the shoulders of management.

In earlier days, the individual "capitalist-employer" was the head of the typical business enterprise. He it was who provided all or a large part of the invested funds, assumed all the hazards, performed "the work of superintendence," and took all the profits. The growth of corporate organization and the spread of large-scale operations have rapidly accomplished a complete separation of management from other functions. At present, for example, the work of management is largely dissociated from ownership.² The bulk of corporate funds is furnished by a "miscellaneous and shifting body of stockholders," and by bondholders who may or may not be shareholders in addition. The supervision of the corporation's affairs is turned over to a board of directors, and this board passes the task of management on to a set of general officers who are paid fixed salaries and who may or may not hold a single share of ownership in the corporation. Then, too, the necessity for the coordination of the large numbers of workers and the necessity for the coordination of complicated and highly-specialized processes, both of which are characteristic of large-scale operations, have resulted in the transference of thought, skill, and intelligence from workers to machines and

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management. The special responsibility for the profit-making operation of the business enterprise is the concern of the salaried general officers of management rather than of a "capitalist-employer."

The "management" of a business enterprise includes the whole sweep of policies and devices by which the internal operations of the enterprise are directed and executed, and by which the external relationships of the enterprise are coordinated with its business and social interests.³ Even in the case of the external relationships of the business enterprise, management must put its business interests first and its social interests second if there is need for choice. Frequently, however, these two sets of interests coincide, and of late it appears that in order to make money it is more than ever necessary to make goods. Nevertheless, when a choice is necessary, management must subordinate industry to business. "To prosper, even to survive, business enterprises must make profits—not every year, but on the average."⁴ Consequently the central and controlling aim of management must be to make profits.

Since profits are made by a connected series of purchases and sales of goods, services, or rights, two fundamental factors or conditions appear to affect the process. The margins between the prices at which goods, services, or

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rights can be bought and at which these commodities can be sold is certainly one basic factor. Closely connected with price margins is the second basic factor, the present and prospective volume of transactions.

Obviously, then, management is vitally concerned with controlling costs. Wherever and whenever possible, the purchase price (cost) of the commodity in which the business enterprise deals, must be reduced. Nor does this cost mean the manufacturing cost alone, or any other particular functional cost. Management is interested in total costs, because profits or losses are the differences between total costs and the prices obtained in the sale of the enterprise's commodities. Manufacturing costs, marketing costs, and "overhead" costs are all important, since they are component parts of total costs. This necessity for controlling total costs, and for reducing them if possible, confronts the management of any business enterprise, large or small. While an increased volume of transactions presents new opportunities for reducing costs, the basic problem of economical and effective methods and their relation to total costs is always present in the business enterprise, irrespective of the volume of its transactions. Unfortunately, as enterprises grow and as the volume of their transactions increases, total costs are often lost sight of in the glee with which management watches

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its shrinking manufacturing and overhead costs. Such reductions, of course, are of little avail so far as profits are concerned, if the new and efficient mass-production results in frenzied and wasteful marketing. The cost of finding or creating new markets may completely counterbalance any manufacturing savings brought about by scientific methods of large-scale production. Total costs present the proper internal approach to the problem of making profits.

Generally speaking, it would seem that management has devoted most of its attention to manufacturing costs. For the past fifty years the processes of making goods have been steadily improved, and manufacturing costs have been decreased. In the beginning, American industry was built up on a foundation of abundant raw material, a shortage of labor, and a rapidly growing domestic market hemmed in by walls of protective tariff but containing no tariff barriers within itself. Perhaps it was but natural, then, that management should be wasteful of materials, unconcerned with marketing and saving of labor.

Labor saving involved primarily the use of machinery, and the tremendous development of labor-saving devices in this country was born of the necessity for increasing the productivity of whatever labor was available. As rapidly as possible each step of the industrial process was taken from the hands of the skilled artizan aided

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by some elementary mechanical apparatus and turned over to the hands of some complicated mechanical device merely aided by an unskilled artizan.⁵

From labor and machinery, management turned to the control of materials—raw, in process, and finished goods. To the problem of marketing and the coordination of manufacturing with marketing all too little thought has yet been given by business management.

Certainly, the first application of the methodology of science to the problem of management was made in the field of manufacturing. In the Midvale Steel Plant, during the eighties, a young engineer named Frederick W. Taylor launched the "scientific management" movement. What Taylor aimed to do was "to apply scientific methodology—as opposed to trial and error—to the job of making up a given amount of raw material into a given finished product, on the principle of a minimum of waste and friction."⁶ He hoped, in rough, to influence management to substitute science for guesswork. Perhaps the best definition of his general aims is found in the words of Copley, Taylor's most important biographer :

The grand ends to which this system is all directed may be here defined as (1) the determination of best or standard ways, implements, and materials by scientific investigation and ex-

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perimentation, and (2) a control so extensive and intensive as to provide for the maintenance of all standards in this way reached.⁷

In seeking these "grand ends" Taylor developed detailed devices and concrete aids, the use of which he widely advocated. Chief among these devices were time study, the use of slide rules, the "differential rate," functional or divided foremanship, instruction cards for workmen, mnemonic systems for classifying goods and implements, the "task" idea accompanied by a cash bonus for the successful performance of the task, the planning room, detailed cost accounting, and a routing system.⁸ Any one or any combination of these devices does not, of course, constitute a system of scientific management. The essence of scientific management is rather the fact that it aims to set up a "100 per cent. standard," based upon the *best* way of doing a job as determined by extant technical knowledge and experimental discovery.

Taylor's system of management and the later modifications of his system are justly entitled to the claim of being scientific, because they make definite use of the scientific methodology of classification, analysis, synthesis, and measurement. The establishment of standards and specifications, the functionalization, and the allocation of responsibility certainly involve the most careful classification. The study of the

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methods of treating tool steel in order to treble its cutting power requires the most painstaking analysis. Tying processes together by routing work and materials with general orders, special orders, work orders, purchase orders, tickler memoranda, instruction cards, and controlling the whole manufacturing plant by a detailed cost-accounting system, involves the most persistent synthesis. Measurement, too, thoroughgoing and exhaustive, permeates the whole system.⁹ For example, in the manufacture of locomotive tires, the system demands that the raw steel, the cutting tools, the arrangements of cutting machinery, the belting, the power load, the lubricating and cooling devices, the handling of supplies, and the physical motions of the men who run the tools, must all be measured as well as analyzed, classified, and synthetized by hundreds of laboratory experiments until the *best* way is found.¹⁰ Time and motion studies, job specifications, and the application of measurement to the process of selecting workers, all are important.

Few, if any, manufacturing plants can be found to-day that are closely modeled after Taylor's system, set up at Bethlehem. Nevertheless, Taylor's influence has been enormous, and scientific methods of management are coming into wider and more general factory use, as well as into more intensive application within the

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factories using them. "Taylorism" had some of the spiritual elements of a gospel, and some of Taylor's early followers undoubtedly went too far in their adherence to its principles as dogma, and in their insistence that only by complete fundamentalism would manufacturers be saved. Fortunately, business enterprise has recognized that the material elements of Taylor's system are unimportant as compared with his idea of applying scientific methods to changing problems. Charlatanism in the name of scientific management has, of course, persisted; but on the whole, modesty, humility and a truly scientific approach have characterized the efforts of management to control and reduce the costs of manufacturing.

As has already been indicated, most of the progress in the application of science to the problem of controlling and reducing costs has been confined to increasing the effective use of the methods and means of manufacturing. Management has given the majority of its efforts to manufacturing costs and not to total costs. Management has called upon technical experts and trained engineers of every kind. These experts have tackled one machine and improved it; one process, one method. They have time-studied operations, and frequently they have "improved the operators themselves to their pecuniary, mental and physical advantage."¹¹ By 1914, the

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standardization of manufacturing methods and the application of scientific management to labor and machinery had built up an amazing productive mechanism. "Unheard-of production capacity, mountains of annual volume, undreamed-of low-unit costs were the factors which made America a nation of almost unparalleled wealth and high wages."¹²

Perhaps the greatest task of management at the moment is the effective control and possible reduction of marketing costs. In many instances the rewards of manufacturing ingenuity have been "swallowed up" by wasteful marketing costs. Many business enterprises are discovering that their marketing costs are steadily increasing and that they have exhausted the major possibilities in reducing their manufacturing costs. Such a condition reflects itself in lower profits and presents to management its next big task. Each part of the marketing fabric needs to be taken apart and gauged, not with hardened steel gauges, perhaps, but with persistent analysis, classification, and measurement. Worn, inadequate, and incompetent timber must be ripped out of the external sales personnel. Needless operations, lost motions, and monkey motions are all too prevalent in personal selling.¹³ Similar study and experiment must also be applied to the internal marketing organization. The type of planning and use of advertising

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described in the following statement must be discarded:

If a large volume of advertising in a given case fails to do the job, the volume is likely to be increased instead of the character and the mediums being changed and other marketing factors brought into strict coordination, as tho a 100 per cent. job could be done by adding in volume to a 50 per cent. or 75 per cent. content of weakness and paucity of definition, and a considerable degree of indirection.¹⁴

Surely any such procedure can hardly stand up to scientific test and experimentation with means and methods.

The costs of indirect material, indirect labor, indirect expenses and administrative expenses also need to be controlled and reduced if possible. Management must be concerned with the total costs of its particular business operations. It is definitely interested in pushing lower the purchase price (cost) of its total operations.

Considered in the internal sense and somewhat irrespective of the scale of operations, the task of management rests, then, squarely upon a scientific investigation of facts as the determinant of all action. If Spencer's idea of tragedy was a theory killed by a fact, management's idea of tragedy must be a fact killed by a theory. Broadly speaking, experience in scientific management has already established certain prac-

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tises which are based upon facts that appear to be "general and enduring." These practises, management can apply internally to the whole of the business enterprise. They are functional organization, the separation of planning and detail execution, standardization (of product, of materials, of equipment and condition of equipment, of methods, of times and rates, and of personnel), and the establishment of system or routine.¹⁵

Our first chapter, it will be recalled, dealt at some length with the interesting economic anomaly or conflict between the aims of society and the aims of business. It was pointed out that society is concerned with the making of goods, while the business man is concerned with the making of money. Our discussion of the task of management has emphasized its central profit-making purpose. It is hardly necessary to indicate that in so far as management concerns itself with developing technical efficiency and reducing total costs it tends to bring the profit motive toward an absolute coincidence with social welfare. In spite of management's obvious oversights and common neglects, in its internal efforts to secure the greatest economy of material and efficiency of method, it is making progress toward the solution of the economic anomaly. Specifically, its contributions appear to be as follows: It tends to make possible a larger vol-

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ume of production from a given amount of productive equipment; it increases the certainty and regularity of plant operation by making less frequent interruptions caused by lack of materials, breakdowns, strikes and lockouts; it tends to prevent the creation of surplus plant capacity (particularly when management gives the proper amount of attention to marketing); and it brings about a selection of workers in line with the requirements of particular jobs which must be done, the training of workers in the best technique for the job, and the creation of incentives to greater effort by workers.¹⁶ In these respects, at least, the necessity for making profits works toward the social welfare, the making of goods.

From the point of view of increasing the efficiency and cutting the costs of all the internal operations of a business enterprise it is scarcely surprizing that business management turns toward large-scale operation. Profits depend upon the volume of transactions as well as upon efficiency. In fact, the present or future volume of transactions is one of the most important elements in reducing unit-manufacturing costs. The growth in the size and scope of business enterprises is very largely caused by management's desire for volume. The pecuniary advantages of large-scale operations as they relate to

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total costs are indeed appealing. They may be summarized as follows:

Economies in Manufacturing

1. The materials required—raw, fabricating, installation, accessory, as well as fuel and power—can generally be secured more cheaply when purchased in large quantities.
2. Labor may be more effectively utilized, since processes can be minutely divided.
3. Plant and equipment may be more advantageously utilized. The demand for products may be forecast more accurately and coordinated with the manufacturing program to avoid slack and rush periods of work.
4. The materials may be more effectively utilized, either by manufacturing by-products or by disposing of waste in bulk.
5. Standardization can be more easily applied.
6. Research may be carried on at less per unit of output.

Economies in Marketing

1. Transportation may be carried on in greater bulk, resulting in a saving per unit transported.
2. Advertising costs may be decreased in unit cost altho the total volume may be increased.
3. The personal sales force required will not increase in the ratio in which the sales increase, therefore resulting in less cost per unit of product.
4. Branch selling agencies may be maintained.
5. The value of good-will and of trade-marks will increase with the volume of business.

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Economies in Management

1. The "overhead" cost per unit of product, and in particular the fixed charges, will not increase proportionately to the production.
2. Better management can be secured and afforded.
3. Cost accounting and production control systems can be introduced at less cost per unit of product.

Economies in Finance

1. Borrowings can be effected at cheaper rates as a result of larger issues of bonds and of better security.
2. The amount of risk taken will be less because of the pooling of profits and losses, the greater ability to study outside market conditions, and the more able management.
3. Greater financial resources will be available in case of depression or business strain."

In order to secure any large number of these possible economies which present themselves under large-scale enterprise, management must increase its own efficiency to the n th degree. As business units grow, the importance of total costs becomes of tremendous moment to management. So far as low manufacturing costs are involved, large-scale mass production depends upon a large volume of sales, standardization of product line, and continuity of production. Glutted markets, the desire for variety in style offerings,

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and hand-to-mouth buying are only a few of the conditions which operate to make continuous and profitable mass production difficult. The choice between an attempt to force sales by intensive and extensive marketing which may be so costly as to offset the savings in mass manufacturing and an attempt to work out a proper correlation between carefully-determined sales possibilities at reasonable sales costs and the schedule of factory output is a fine and hazardous matter of decision. Moreover, there is always the chance that "giant, on-rushing" manufacture may become careless manufacture—or even "antiquated" manufacture. In the long pull, sound quality is probably more profitable than careless quantity.

Moreover, there is the ever-present possibility that the capacity of men to team well may set up a boundary for efficient and economical operation. There are some business philosophers who believe that the "ability of control and management" is the most important limiting factor upon the economy of large business, and that it must be regarded "as a constant factor."¹⁸ Certain it is that management must acquire new and more flexible techniques if the growth of business units is to go on unceasingly.

Once we grant the ability of management to cope with the problems of large-scale operation, it appears that the very growth of business en-

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terprise tends to make it more necessary to make more commodities in order to make more money. The utilization of by-products makes for social welfare, both because of the by-products themselves and because their development, fabrication, and sale contributes profits which may tend to lower the selling prices of the major items in the product line. Again, the integration of processes possible in a large business enterprise reduces those restrictive forces which might otherwise be exercised to limit the production of such an enterprise. When an industrial enterprise is absolutely dependent upon others, say, for materials or power, it is in a precarious position and may be forced to shut down and stop production for a period. Moreover, large-scale business enterprises can better afford to engage in technical and mechanical experimentation and research than can the small-scale enterprise. These investigations may develop better methods of making goods and in this sense large-scale operation contributes "cumulatively to material production."¹⁹

So far we have stressed the work of management in the direction and execution of the internal operations of the business enterprise. Management, however, must also assume the task of coordinating its business interests with those external conditions which exist outside the enterprise itself. It is plain that every business

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enterprise is surrounded by a multitude of broad social relationships. Only the most significant need be mentioned here. So far as management is involved, they appear to be the enterprise's relationship with the trade and with the "state."

The trade association generally serves as a central agency for "fostering, furthering, and supervising" the external relationships of competing business enterprises one with another. These associations trace their ancestry back to the medieval craft guilds and the Hanseatic League, but they are vastly different in their interests and significance. There are perhaps some twenty-five thousand of them in the United States to-day. They carry on a wide variety of activities "embracing every conceivable phase of economic interest."

They may collect, compile, prepare, and disseminate statistical data of production, stocks on hand, shipments, or cancellations. They may engage in legislative propaganda and lobbying in the interests of the trade. They may aid in influencing their individual members to adopt simplified practise agreements. They may study cost problems, prepare and distribute standard cost systems to the trade. They may set up a credit-and-collection clearing house for their several members. They may work out codes of trading ethics and encourage their adoption. They may conduct traffic bureaus for the study

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of rates, classifications, car supplies, and so on. They may organize and operate research departments to study personnel work, accident prevention, distribution costs and any other business problem. They may engage in industrial research and maintain laboratories staffed by technical experts. They may develop cooperative buying associations and reciprocal patent agreements. Most of these activities deserve the support of the management of the individual business enterprise. In their results, most of them facilitate management's pursuit of profits, and at the same time are conducive to larger outputs of goods than would be manufactured without their operation.

Such trade-association activities as may attempt to regulate output by agreement or to fix prices are of another color. In the first place, they are quite definitely illegal, as an increasing amount of judicial opinion will attest.²⁰ In the second place, such practises do not develop any close or continuing relationships between the profits gained and social welfare. Of course, an agreement between competing managements to restrict output under the auspices of a trade association does not necessarily mean that the "total amount produced by all the parties to the agreement will be any less than it would be if no such agreement existed."²¹ Therefore, while agreements to limit production are illegal,

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and while they are not positively conducive to social welfare, neither are they necessarily and ultimately restrictive of production.

The present attitude of management toward the trade association is not exclusively dominated by the desire to create price differentials which will mean more profits for the individual enterprise at the expense of social welfare. At first, of course, management accepted individual membership in the trade association more or less reluctantly, and with a willingness to receive all it could without giving or conforming in return. It saw in the trade association only such advantages as central credit records, united pressure in securing tariff privileges or united defensive action against restrictive legislation. But that attitude has changed. The importance of cooperative and collaborative efforts are widely recognized by management to-day. In an effort to break away from malicious competition and from excessive individualism "under circumstances which make individualism a bull in a china shop," management is turning to the trade association for the modification of the "destructive elements" in present business practise. As President Hoover has said, "We are, almost unnoticed, in the midst of a great revolution, or perhaps a better word, a transformation in the whole superorganization of our economic life. We are passing from a period of extremely indi

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vidualistic action into a period of associational activities."

Much the same change has come about in the attitude of management toward the state. While there is still a deal of legislative "lobbying," paid propaganda of questionable veracity, and while we still hear loud cries about "less government" in business, management is becoming more alert to the probabilities of the reaction of society to slippery business practises. Moreover, management is coming to a realization that voluntarily-taken corrective measures enormously build up the public good-will. Voluntary conduct which corrects social inconveniences will thereby remove the particular stimuli to social reaction and resultant legislation. Until management can purge business of its abuses by individual or associative action, it need expect no mercy from the government. There is a growing amount of evidence, however, that management is voluntarily experimenting to these ends in the ever strengthening conviction "that good-will is after all the *sine qua non* of survival, and that one of the most effective means for the attainment of that good-will is through collaborative effort in building up accepted standards of sound trade ethics." ²²

OUTLINE OF BUSINESS

PART II

THE
WORLD'S ESSENTIAL KNOWLEDGE
VOLUME V

OUTLINE OF BUSINESS
PART II

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OUTLINE OF BUSINESS

PART II

VIII

THE RÔLE OF THE TECHNICAL EXPERT

THERE is nothing summarily new in the idea of the importance of the technical expert in the whole process of making money-profits. The value of possible contributions from pure and applied science in making and selling goods has long been understood by business management. Twenty years ago, Robert Kennedy Duncan, the moving spirit behind the Mellon Institute, pronounced a factual prophecy, when he said:

During the next five years the small manufacturer who is swept out of existence will often wonder why. He will ascribe it to the economy of large-scale operations or business intrigues or what not, never knowing that his disaster was due to the application of pure science that the trust organizations and large manufacturers are already beginning to appreciate.¹

Since 1900, the broad importance of science to industry and the conditioning influence which machine processes and laboratory methods exert

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on profit-making business methodology have been generally recognized. To-day, some twenty years after Mr. Duncan's statement, the business enterprises of the United States are spending over twelve times as much money in research as the government and the universities combined. In 1927 some 1,000 research laboratories were in operation under a total cost of \$217,000,000, of which \$200,000,000 was paid out by business enterprises. In the past twelve years individual business enterprises have increased their research laboratories from fewer than one hundred to more than five hundred.² Approximately 30,000 persons are at present employed in applied science investigations. The proportion of all persons having gainful occupations who are "administrators, supervisors and technical experts" has been steadily and rapidly increasing. It stood at 1.25 per cent. in 1870 and at 3.80 per cent. in 1920.³

Under the impetus of scientific contributions and mechanical inventions, the technology of making goods has become so elaborate that it is increasingly impossible for management, of and by itself, to oversee industrial as well as commercial and financial operations. From almost the very beginning of the so-called Industrial Revolution in the United States, the process of specialization of labor has been going on between those individuals who have an aptitude

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and training for "designing and operating machinery" and those who lean by natural bent, experience, and training toward "dealing with markets for wares and money." Thus "while the old capitalist-employer has evolved on one side into a business management, he has evolved on the other side into a set of technical experts." ⁴

The first group of experts to assume importance as advisers to management in the direction of production were the engineers. In the change from domestic handicraft to machine manufacture this development was but natural. It is inevitable that "under the new order the first requisite of ordinary productive industry is no longer the workman and his manual skill, but rather the mechanical equipment and the standardized processes in which the equipment is engaged." ⁵ To a greater extent than in any other known mode of production, our present large-scale power manufacturing is dominated by physical plants and machine equipment. From the profit-making point of view, management must remember that the first and most obvious commitments of capital which it must attempt to use fruitfully are the investments in plant and equipment. It is essential, then, for management to call upon the engineer and the mechanical inventor to aid in perfecting tools and

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machines and in effectively directing machine processes and operations.

Management is fully awake to the value of continuous and volume machine production. From the pecuniary angle, it knows that larger outputs of goods and continuous production results in lower-unit manufacturing costs. It realizes that it must employ technical experts who are familiar with the intricate but precise laws of mechanics in order to direct and control this desired continuity of machine operation and its attendant requirements of power supply, lubrication, inspection, repair and maintenance. Current operating costs must be controlled and eternal technical watchfulness must be exercised over continuous operations and machine processes.

Moreover, operative costs must be reduced if possible. New machines which will still further reduce the necessity for hand labor may mean a sharp decrease in costs. In general, as Stuart Chase points out in the following quotation, factory machines have progressed through three chief stages:

First, they supplied more power to the skilled worker. They increased his output but left his job substantially unchanged.

Second, they subdivided the manufacturing process allowing unskilled or semi-skilled workers to feed them, remove the output, and carry on

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the few repetitive motions which their tending required. This is the robot stage.

Third, they replaced the unskilled worker with their own steel fingers, doing the feeding, processing, packaging, themselves. The skilled man comes back into the picture as inspector, repairer, adjuster of delicate controls. His job is interesting, non-repetitive; requires intelligence. The robot has largely disappeared."

The step from hand-tending to machine-tending may mean savings in manufacturing costs. Consequently, management is vitally interested in the efforts of its technical experts to develop new machines. It realizes that in keen competition the business enterprise which has an advantage is the one which develops and installs new and better mechanical devices. It knows that power production can advance no faster than the machine-tool, the instrument for making other machines. So it organizes a development and experimental group of mechanical experts to develop new machines and new methods and machines for making new machines. Because this whole process of experimentation and development requires experts in the physical sciences, they too are employed in addition to mechanical experts.

These technicians are employed not for the purpose of accomplishing "discoveries" or perfecting "inventions" which are to be given to society for the free use of anyone who will use

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them, but for the purpose of solving definitely formulated problems. The following quotation presents an excellent description of the typical operating process:

The idea that a certain operation or process ought to be accomplished by machine . . . may originate either in the factory itself, or be conceived by a member of the merchandising committee or by some executive in the general office. Its desirability being passed upon by several department heads, a member of the mechanical division (or sometimes the person who made the suggestion, if he is possessed of a mechanical training) is then requested to prepare a rough sketch for the device. This drawing is then passed over the desks of several members of the mechanical division, each a specialist, to receive critical estimates as to the contemplated machine's feasibility of construction, the materials to be employed, the practicability and proper mechanical functioning of the machine after it is made, its probable cost of operation, and its prospective performance in terms of physical units of product. If the proposal survives these several analyses, specifications are decided upon and preliminary drawings made. An estimate is then made of the cost of construction, and after this has been approved, detailed specifications are drawn for each part of the machine. It is then built and placed in the factory's experimental room to be tested under actual production conditions. All necessary adjustments are made here, and these may require as long as from several weeks to six months or more. When they have been accomplished successfully, the machine

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is regarded as perfected for use and is put into service in the department for which it was designed.⁷

In addition to the problem of the most effective use of physical plants and equipments management faces the necessity of controlling the use of materials in such a way as to make profits possible and certain. Unwatched material-costs can become a tremendous burden upon continuous and large-scale production. A whole new series of experimental possibilities present themselves in the handling of raw materials, waste, by-products, and scrap. Once again, management calls upon the technical expert for advice and guidance. In this situation the chemist, the geologist, the metallurgist, the electro-physicist are all employed to aid in solving the problems of materials-control and use in the hope of developing new profit-making possibilities.

To exemplify the rôle of the technical expert in his study and advice with respect to machinery and materials, one experience of the Ford technical staff is worth recording here. For a long time the process of treating steel by heat was a troublesome process to the Ford technical experts. Obviously, many steel parts had to be treated with heat in order to increase their strength and make possible the use of lighter parts. The process is a delicate one, because each part must have the proper degree of hardness.

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If a part is too soft it will wear out. If it is too hard it will easily break. Accordingly the experts worked out a training method for the heat-treat laborers and also a system of mechanical heat regulation. But one problem remained. The straight parts, such as axles, did not cool evenly. After their heat treatment they had to be straightened and the labor of straightening added to the cost. Once again the technical experts began to experiment. After a year or two they commenced to get results. A centrifugal hardening machine was devised. This new machine cools the axle-shafts evenly all around. The necessity for the straightening operation was eliminated. Moreover, an electric furnace replaced the gas furnace. The results are presented in the words of Mr. Ford and his collaborator, Samuel Crowther:

Where four gas-fired furnaces, with six men and a foreman, did 1,000 connecting rods an hour for the drawing operation alone, now two electric furnaces will both harden and draw 1,300 rods an hour, with only two men—one to feed and the other to take off. . . .

These changes may not seem important, but cutting out the item of straightening after the heat-treat has saved us around thirty-six million dollars in four years!⁶

The effective use of technical experts by the Ford Motor Company and by other large in-

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dustrial concerns has pretty well convinced the rank and file of business management that an increased dependence must be put on the experiments and the advice of the applied scientist. Management is growing more and more convinced of the truth of Sir Richard Threlfall's statement that "there is scarcely any industrial operation, perhaps no such operation at all, which would not benefit if it were systematically investigated."⁹ The technical expert has made good. The invention of new machines, the development of new materials, and the perfection of the technological innovations of applied science are proceeding at an incredible rate. From the laboratory comes the word that a way will be found to make or do anything that is needed. Nothing is impossible to the technicians of a generation that gave the world the airplane and the radio, and multiplied President Harding's speech at the tomb of the Unknown Soldier 3,000,000,000,000,000,000,000,000,000 times.¹⁰

As children in school, most of us were inclined to look upon the inventor and the scientist as persons who built contrivances or analyzed "unknowns" with a resulting benefit to society but without any personal reward except perhaps the erection of a monument thirty or forty years after death by starvation in a garret. The early motion pictures improved the lot of the inventor and scientist somewhat, but still he was depicted

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as barely living on the pittance crusts flung to him by an industrial concern which made millions out of his discovery. The present generation has completely changed the picture. To-day, the inventor and the scientist experiments in a completely-equipped laboratory. He is well dressed and well fed. His car awaits him outside the laboratory door. The change is the work of the impatient business manager, who cannot wait for technological innovations to be designed, patented, and sold to one and all.

The general watchword of science at the moment is usefulness. Years are no longer spent in a futile search after a formula for synthetic gold, or in attempts to bolster theology by geological discoveries. The medieval alchemist has been succeeded by the industrial chemist, who uncovers new commercial materials and turns old elements "to novel uses in the manufacture of commodities." The geologist is more interested in the possible uses of the earth's materials than in their age. The biologist earns his living by improving the animal and plant life in which his employers deal.

However, if we turn to the social sciences as opposed to the natural sciences, the picture of a developing dependence on the expert by modern business management is not so vivid and clear. Applications of the social sciences to the problems of business lag far behind the applications

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of mechanics, chemistry and electro-physics. Only in recent years has the practical usefulness of the knowledge which the social sciences can convey been generally admitted. However, a beginning has been made already and some of the results have been of definite value. "At least as rapidly as they have grown ripe for the task, these sciences have been put to work by new groups of experts, who are gradually gaining something of the self-confidence and the recognition enjoyed for decades by engineers."¹¹ The psychological expert is being used in studying personnel problems. The cost of placing and training employees is an important cost. If savings can be effected by a psychological study of the requirements of different jobs and a psychological rather than a military supervision of working conditions, management wants these savings effected. If a marketing expert can evaluate even roughly the qualitative factors which are causing sales resistance, management wants the rough evaluation. If a stylist can work out an approximately accurate set-up of the style cycles of the past which can be used as a basis even for *possible* style trends in terms of time, management wants the qualified prophecy. If the business statistician can give sound advice on planning and current operations only seventy per cent. of the time, management wants his advice. And so it goes. The line or operating man-

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agement will increasingly lean upon the technical experts who are soundly versed in the sciences of nature and of man.

The story is told that in the days now past, when business was more intensely an affair of personal rivalry, the head of a large manufacturing concern startled his business rivals by hiring two chemists.¹² One of the jealous rivals headed for New York almost immediately, hunted up a friend with a knowledge of chemistry and chemists, and said: "I understand that So-and-So has hired two chemists. I want you to get busy and hire me four."

Yes; but what of the small business enterprise that cannot go into the open market and "buy four chemists"?

The most of what has already been said about the value and importance of the technical expert would seem to imply that only the large-scale business enterprise will have funds enough to make effective use of the possible contributions of applied science. And yet there are thousands of small business enterprises, no one of which can conduct a research laboratory, and every one of which could profit by technical guidance and advice. Organized cooperation in trade associations is the small business enterprise's main hope of securing needed technical advice. For many years the trade associations have been doing intelligent and valuable scientific work.

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“At least forty trade groups are engaged upon such programs, and these groups vary from a half-dozen individual members to many hundreds, and spend from small amounts up to a million and more dollars annually.”¹³ Unquestionably a well-organized trade association can provide for its members many of the benefits which come to an individual business enterprise which is large enough to maintain its own laboratory, tho perhaps not in quite the same degree.

The business managers of many small business enterprises are, of course, skeptical of any group-research projects. They feel that in engaging in trade-association research, they may be surrendering some of the advantages which they enjoy as competitors in the field. They forget that any benefits that can be secured from the new truths which may be discovered rest almost directly upon the ability of the individual enterprises to apply to their individual activities the data thus secured. On account of this feeling, however, most trade associations which undertake scientific research attempt to select problems sufficiently fundamental to avoid a competitive spirit.¹⁴

Many such organizations begin their program of work with standardization and simplification activities. In these efforts the trade association may call upon the aid of the Division of Simplified Practise of the Department of Commerce.

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The development of a Simplified Practise Recommendation by the Department of Commerce starts with a determination of existing production and sales-trends by means of surveys conducted by committees appointed by the trade association concerned from its own membership. From these surveys a tentative recommendation is set up and presented to a general conference of all members of the association, and other distributors as well as users. Following this general conference, the recommendation is presented to more or less the entire industry by letter referendum. The formal endorsement of the recommendation by the Department of Commerce is generally made dependent upon an acceptance of the program by at least 80 per cent. by volume of each group concerned.¹⁵ Much has been accomplished by the Simplified Practise Division of the Department of Commerce in cooperation with trade associations and with individual business enterprises. Typical examples of this work are the reduction of 44 different types of common brick to 1, the reduction of 1,351 different types of files and rasps to 496, the reduction of 125 types of metal lath to 24, and the reduction of 1,819 varieties of sheet steel to 261.

By working through the trade association and with the cooperation of the Department of Commerce the small business enterprise can emulate and approach the savings that large-scale busi-

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ness enterprises have been able to effect by simplifying materials and supplies. Some of these latter savings have been tremendous. The Pennsylvania Railroad, for example, has succeeded in eliminating 44 per cent. of the items carried in its stores, making a reduction of from 140,000 to 78,000 items. The Union Pacific Railroad effected a 46-per-cent. reduction in the number of items carried in its stock, which promptly released \$18,000,000 tied up in stores inventories.¹⁶ One specialized organization, namely, the American Society for Testing Materials, offers its services to trade associations in carrying on cooperative research projects looking toward the standardization of specifications and methods of testing materials. It has already done work in sixty-five different industries.¹⁷

Nor is there any real need for the trade association to limit its technical work to such fundamentals as simplification and standardization. Ten or eleven years ago, for example, the idea that technical research could be of benefit and profit to the cleaners and dyers suggested itself at the annual meeting of their trade association. To-day, a modern institute has been erected at Silver Spring, Maryland, which carries on research work of varied character. The beginning of this project was a program which made use of a consulting chemical laboratory continued upon the fellowship plan at the Bureau of Stand-

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ards. Now, in addition to technical investigation, the Institute offers a series of technical courses to those who are either employed in or who are expecting to enter the dyeing and cleaning business. The activities of this research project indicate what an industry composed, for the most part, of a large number of relatively small units, can do for itself.¹⁸

It is manifestly impossible to evaluate the assistance of the technical expert and the contributions of applied science to the task of business management. The most that can be said is that through the efforts of individual business enterprises and trade associations some industries have profited immeasurably by making full use of technical and scientific advice. The steel industry owes its existence to the contributions of science. Crude methods of making steel have been steadily improved by scientific experiment, and new steels, nickel, chrome, tungsten, vanadium, and so on, have been developed to meet special demands. Adequate fuels have been devised and waste gases have been utilized. The inventor and the mechanical engineer have been back of most of the mechanical progress in the automotive industry. The rubber industry, whose business in 1925 amounted to a billion and a quarter dollars, maintains some 24 research laboratories and employs 1,066 research workers. The services of the chemist and the physicist

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are continually used to work out new methods of treating rubber and to suggest new uses. However, it may not be out of place to point out that in a list of the 32 American corporations holding the highest rank as measured by research workers employed, there does not appear a single representative of two of our basic industries, namely, coal and textiles.¹⁹ Incidentally, these same industries have been at the bottom of the earnings scale in recent years. Of forty-four American countries which, during the war, engaged in the production of potash, only one has survived. That is the one alone which developed and supported a program of research.²⁰ There is evidently still much to be done. Business enterprises cannot evade the necessity of new attitudes and new methods by the simple process of glorifying integrity of product and honor and dignity of personnel.

A more intensive and extensive use of the technical expert who is versed in the sciences of nature and of man is inevitable. There are three reasons for this statement. In the first place, the course of business during the years that are just ahead is going to be severely competitive. We have a tremendous production equipment, and the owners of that equipment are going to insist that it be used. Second, we face an increasingly uncertain consumers' demand. There are still "large blocks of con-

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sumers" who have yet "to find and disclose their places in our general consuming power."²¹ Huge production equipment and uncertain consumer demands make for highly competitive conditions. Hence the development of better technical control in the direction of less waste and more production per unit of expense is a major problem. Third, an efficient technical guidance and control of business activities is necessary to secure harmonious industrial relations.

You cannot take your industrial relations problem away from your operating problem—consider it by itself. Your real personnel department is the whole group of those working and managing. The effectiveness with which you do the things, the extent to which you can make efficiency of effort and pleasure identical, the extent to which you can do a thing so well that you can pay a better wage than is customary and survive as a profit-making institution—to that extent you create the basis for harmonious industrial relations.²²

Now, this whole program of technical improvement must be based very largely on the machinery of research and experiment. Most of the data which establish a factual basis for cost-saving methods of business operation is so concealed in a great mass of intermixed usable and non-usable elements that specialized and expert methods for their discovery, valuation, and util-

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ization are absolutely necessary. Tiny shreds of an idea chased down to a fundamental law which can be scientifically and persistently applied make possible tremendous business evolutions. With constant experimentation, the wastes and inefficiencies of the past and the present can be made to yield the profits of the future. Business management, in general, can well say with Arthur Little, "The price of progress is research, which alone assures the security of dividends, and that progress is made not by raising tariffs, but by devising new methods, new equipment, new organization for operation, distribution, and control." ²³ In the making of goods the technical expert must build upon the natural sciences. New discoveries and new evaluations are necessary preliminaries to new utilizations. Likewise, in the managing of men, the technical expert must build upon the social sciences. New facts and new testing are fundamental to a firm foundation.

Because of the organization of our complex money-profits or business economy, the technical expert will remain for the most part merely an adviser to the business manager. The highest authority in deciding what business will or will not do rests with management. The technical expert has his opportunity to share in the guidance of business activity, but only in a somewhat secondary rôle. Business management assumes the

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responsibility of making profits and business management must retain the final word in deciding upon the technical program.

Consequently, it would appear that business management must survey the whole technical order with the clearest vision and the most receptive attitude of mind. It must be more ready to recognize and accept the unquestioned value of research accomplishments.

The American rights under the viscose patent for artificial silk could have been purchased at one time for \$50,000. No American buyer could be found. In 1925, a foreign-owned corporation produced in this country, thirty-six million pounds valued at \$81,000,000. The sulfite process for making wood pulp; the basic syntheses for dye manufacture, the manufacture of methaenol from blue water gas, not to mention rare accomplishments in the field of optical glass—all remind us of lost opportunities in America to capitalize American intelligence for the prosperity of American industries.²⁴

Management must be alive to scientific opportunities. When research produces something which possesses commercial possibilities, the inventor and the research worker should not be obliged so often to engage in a campaign of personal salesmanship and industrial advertising to secure an opportunity for the development of his discovery.

Again, business management must be patient

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with research. In the past it has not been uncommon for a century to elapse between the discovery of a natural law of chemistry or physics and a practical or commercial application of it.²⁵ The scientific expert must not be regarded as a dealer in miracles. He cannot fairly be expected to produce overnight from his manuscripts and test-tubes the answers to problems that require five years of experimental work. There is a deal of danger in setting up the technical expert as a modern Aladdin and judging results by an inadequate time factor. More than once the progress of research has been seriously jeopardized and even crippled by demanding results too quickly.

Finally, business management needs to recognize more fully the relationship of pure science to applied science. Most of our present-day industrial inventions which fairly take our breath away as we contemplate them are founded upon principles gleaned from nature by the pure scientist of a few decades, generations, or centuries back. What will happen when we have applied practically all the knowledge of pure science which we possess? "We are utilizing the basic raw material of research—the common fund of information about nature's laws—faster than we are adding to it."²⁶ And yet the two processes of applied and pure research should be kept in balance.

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Management cannot afford to shirk its responsibility in contributing to the forward march of pure science. It has much to gain. There is no reason to suppose that all the useful knowledge in the fields of pure science has been discovered. Human needs and coincident markets abound for products that still await the discovery of fundamental but unknown principles of pure science. There is scarcely an industry in operation to-day which does not feel the need for more basic and purely scientific information at some conjuncture of manufacture and applied science. Certainly, any increasing disparity between the amount of work in pure and applied science is of real significance to business management.

It is seemingly strange that America, a country which has few rivals in applied science, should lag so much and so far behind the European nations in its progress in the fields of pure science. Despite the fact that the Nobel prize has come to four Americans, Millikan and Michelson for physics, Richards for chemistry, and Carrel for medicine, much more work is being carried on in pure science by our European neighbors. In England, twenty-six research associations are the recipients of an amount of government subsidy of \$25,000,000, a large portion of which is used in research in the fields of pure science. In our own country, the total expenditure for both

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governmental and university research for 1928 was \$17,000,000 as opposed to \$200,000,000 spent in industrial research. While the figures unquestionably intertwine to the extent of indicating an accurate picture of the amount of effort being put into pure and applied science, still they apparently point out a trend. In France, a tax on salaries paid among industries is sufficient to raise \$750,000 a year for fundamental research. Business management in America must soon realize that it is indispensable that more time and money be devoted to fundamental research if we are to keep up the technological advances of the past and present. We must add to the common fund of information about the laws of nature and of man if we wish to increase their commercial applications.

Already does that organization put up the shutters and beckon to the receiver which through parsimony, through blind prejudice, or through just dumb ignorance fails to fall into line and keep step in the procession of forward-marching moods, methods and marvels of the present day in industrial affairs.²⁷

And behind all the new moods, methods, and marvels lies fundamental law!

IX

THE RÔLE OF THE LENDER

THE Biblical parable of the "talents" has both a spiritual meaning and a business bearing. When the lord of the servants came and reckoned with them, he cast the unprofitable servant into outer darkness with the reproof, "Thou oughtest therefore to have put my money to the exchangers." It was not enough for the slothful servant merely to hoard and bury the one talent in the earth while the master traveled into a far country. Fruitful using as well as safe-keeping had been his charge. Because he did not completely execute the charge, because he had not the fruits of use, there was taken away even that which he had—the original talent.

The admonition of the modern business lender is much the same. He plays his rôle in our business economy by harnessing credit to the business wagon and counseling the coachman in the safe and productive use of the draft-horse.

At one time or another most business enterprises need to borrow. In the process of borrowing funds, the business enterprise must satisfy the lender of its ability to safeguard the principal and to pay the interest. Thus it is that

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management must often submit its business judgments to the court of the lender. We have already noted the fact that management, with the assistance of employed technical experts, plays the most active and important part in guiding the activities of a business enterprise. However, since modern business is largely transacted with borrowed funds, management must submit most of its important projects to review by lenders of credit or investment funds.¹

This review of the projects of management is not merely perfunctory. It has a decided practical influence upon the guidance of business activity. New enterprises and new expansions of old enterprises are always being proposed in larger numbers than available funds can finance. By accepting some proposals and rejecting others, the lenders, to a very large extent, have been able to direct the course of business development and to dictate terms and policies to "going concerns." Thus it can be said that one of the most important factors in the final control of business activities—the right of review—is vested in the creditors of business enterprises.

The most vigorous and intelligent review of management's projects is generally characteristic of the financial lending institutions rather than of individual lenders. In fact, the traditional sources of the greatest volume of funds

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which may be borrowed for the creation of new enterprises or for the expansion of old ones have been these lending institutions.

The principal financial institutions which assemble funds and which make their assembled funds available for business use are the savings-banks, the insurance companies, the commercial banks, the trust companies, and the building and loan associations.

There are many kinds of savings-banks, ranging all the way from mutual savings-banks to postal savings-banks. Essentially, the savings-bank is interested in collecting small streams of savings deposits from a large number of relatively small depositors. These banks then hold the collected deposits and pay interest on them, but do not permit the issuance of checks against the deposits. They reserve the right to require notices of withdrawal from their depositors. The period of these required advance notices ranges from ten to sixty days. Now, in order to make money with which to pay interest to the depositors, the savings-bank must find some way to lend these deposited funds to safe business enterprises. Because the clients of the savings-banks are mainly working people who desire a secure depository for their savings, the laws of the individual States more or less prescribe how the savings-banks may invest their depositors' funds. Consequently, these banks invest very largely in

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real-estate mortgages, and in government and railroad bonds. On June 30, 1915, the total savings deposits in the United States were \$9,241,000,000, and the total bond holdings (loaned deposits) were well over \$5,000,000,000. On June 30, 1925, total savings deposits of \$21,408,000,000 and security holdings of \$14,000,000,000 were reported. In this ten-year period, then, the savings-banks alone absorbed more than \$9,000,000,000 of new securities, or in other words, extended \$9,000,000,000 worth of new aid to business enterprises. Savings-bank deposits appear to be growing at the rate of \$2,000,000,000 a year, and so it can be said that this financial institution alone is in a position to make over \$1,000,000,000 of new loans to business each year.

The insurance company is also an important collector of many small streams of funds and a large lender to business enterprises. Fire, hail, marine, accident, life, and a multitude of other kinds of insurance companies are engaged in assuming most of man's definite risks. Their activities consist of collecting periodic premiums from their policy holders according to a contract, in return for which they agree to pay the policy holder or his beneficiaries a relatively large and stipulated amount in the event of the actual occurrence of the misfortune against which the policy holder has insured. The prob-

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abilities of fire, death, sickness, or what not are worked out by actuarial mathematics and experience-assumptions. As a result, the premiums are fixed at a level which will enable the company to pay for such losses as may occur and still make profits. Thus large funds are created, which, of course, in equity, belong to the policy holders in the main. These funds are invested in real estate, loans secured by mortgages on real estate, and in bonds—municipal, railroad, and industrial. The admitted assets of the life-insurance companies alone total more than \$15,000,000,000, so that the reserve funds of all insurance companies which are employed in aiding business enterprises constitute an extremely important sum.

The commercial or business bank also carries on the important activities of assembling funds and of making loans. When the bank is formed, the stockholders provide funds, and from time to time they and other clients deposit varying amounts of funds in this reservoir. Most of the funds, of course, come from depositors. The bank knows that it is wholly unlikely that all the depositors will want all their money at exactly the same time, and therefore it does not keep its funds idle. In actual practise, taking an average over a long period, the bank knows that it need keep in its vaults only from fifteen to twenty per cent. of its total deposits. Much

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of the rest can be utilized as loans to business enterprises. However, the bank must rely on its loans to meet its obligations, and the character of its obligations determines the kinds of loans it can make. Any bank must stand ready at all times to pay any of its deposits whenever payment is demanded (in case of demand deposits), or when they are due (in the case of time deposits). Consequently, a commercial bank with demand obligations must make its loans for shorter periods than the savings-bank with time deposits or obligations. The commercial bank, in the main, then, makes call loans, demand loans, and relatively short-term loans running from a maturity of a few days up to six months. Moreover, the maturity dates of these short-term loans are usually arranged in such a way that the obligations of the borrowers fall due steadily and successively. In their lending function, the "commercial" banks specialize in short-term loans. A rough idea of the importance of the commercial bank as a lender may be gained from the total loans and discounts reported by the member banks of the Federal Reserve System. On September 25, 1929, this figure reached a total of \$17,244,000,000 as compared with a total of \$15,868,000,000 on September 26, 1928.

Trust companies, too, are important contributors of permanent capital to business enterprises. Fundamentally, the trust company per-

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forms the function of administering funds which have been put in trust. It acts as trustee and business manager for "passive investors," and especially as executor and administrator of estates, or as guardian of a minor heir.² It has no connection with those monopolistic enterprises which are sometimes called "trusts" except the connection of verbal accident through the word, trust. In current practise, the trust company does a variety of things. It may act as trustee for a corporate mortgage, as fiscal agent, as registrar of stock, as a transfer agent, or as a manager of an underwriting syndicate. It may serve as curator, assignee, receiver, and custodian for property in dispute. Moreover, it is quite likely to do a commercial banking business and to accept savings accounts. Thus it is a large *assembler and manager of funds which it must keep safe and busy.*

Another foremost savings institution which is rapidly becoming an important lender is the building and loan association. This institution is the most successful form of cooperative credit institution that has yet appeared in the United States. The ostensible purpose of the building and loan association, or the savings and loan association, as it is sometimes called, is to promote saving and home-building. Small payments are made to the association at regular intervals by the members, and money is loaned to mem-

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bers on mortgage to help them finance the building of homes. For example, a member buys stock with a par value, say, of \$500, and pays 50 cents a week until the amount he has paid in, plus the earnings, equals \$500. If he is merely an investing member, he then receives the \$500 in cash. When he borrows from the association on mortgage in an effort to build a home, he must take out stock, the par value of which will equal his loan. When he has paid up his stock, the loan is canceled. In 1926, some 12,800 building and loan associations were in operation with a membership of 11,275,000 and total assets of \$6,280,000,000. During 1926 the gain in assets made by the building and loan associations was greater than the increase in savings deposits recorded by mutual savings-banks and national banks combined. While a large part of the assets of these associations must inevitably be put to work in real-estate loans, the desire for diversification will undoubtedly direct an increasing volume of its assets into bonds. Any "catching-up" in home building will hasten this movement.

Between these many and varied financial institutions which assemble small streams of funds into huge amounts and the business enterprises which desire to use these funds there is need for some kind of liaison or connection. To answer this need a large number of financial enter-

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prises have sprung up which, while they may serve to some extent as agencies for assembling funds, are primarily engaged in marketing funds to needy business enterprises. In fact, they may be called financial "middlemen." The most important middlemen that make up this group of marketing functionaries are the financial brokers, the mortgage companies, the investment-banking houses, the commercial-paper houses, the commercial-credit companies, and the investment trusts.

In the same way that a canned-goods or a fruit-and-vegetable broker, without owning or perhaps even possessing these commodities, brings sellers and buyers together, the financial broker brings together the lenders and the borrowing business enterprises. The financial broker does not own the loanable funds, nor does he necessarily have possession of them at all during the whole process of negotiation. In the smaller towns and communities these financial brokers are very often lawyers or real-estate men who perform this brokerage service for a fee "on the side" as a supplementary activity to their fundamental business labors.³ When the volume of this financial work grows they become specialists in brokerage.

Mortgage companies are also marketing middlemen engaged in bringing borrowers and lenders together. The mortgage company uses its

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funds to buy mortgages issued by business enterprises and sells these mortgages to individual purchasers, savings-banks, insurance companies, and trust companies. This type of company may be either a partnership or a corporation, and consequently it obtains its funds from the contributions of its partners or from the sale of stock to the public as well as from its surplus earnings. Some mortgage companies buy mortgages and, with these mortgages as collateral, issue and sell their own obligations (bonds). For example, a mortgage of several millions of dollars on a large hotel, office building, or apartment house may be negotiated by the mortgage company and distributed in small units among a large number of investors. The holders of these small-unit bonds become creditors of the mortgage company, but in no sense do they become the mortgagees of the property which may be serving as collateral.

The investment-banking house, like the mortgage company, is essentially a financial middleman. This type of company, commonly known as a bond house or an underwriting house, is usually a private institution conducted by a small group of partners. Only a few investment-banking houses are incorporated. The business of the investment-banking house is fundamentally that of buying securities at wholesale and selling them at retail. In general, it performs one or more of

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the following functions: investigating proposals, forming syndicates for underwriting, and selling securities. Extreme caution is exercised before making an agreement to handle a new issue of securities. In the case of a railroad-bond issue, for instance, the investment-banking house will engage engineers to make a complete physical appraisal of the road, lawyers to examine its leases, franchises, and the legal status of other outstanding securities, and accountants to verify the earnings and the set-up of the assets and liabilities. Moreover, the ability of the management and the factor of competition from other lines will be carefully evaluated. Sometimes the investment-banking house will buy bonds outright and then proceed to sell them in small lots to large numbers of investors. At other times the house will "underwrite" an issue by insuring the borrowing enterprise that if the securities in the issue are not entirely sold in the open market the investment-banking house will buy the remainder at an agreed price. Again, the house may take the lead in forming a purchasing syndicate by bringing other investment-banking houses into an organization to underwrite an issue of securities. The following statement exemplifies the method:

The XYZ Railroad issues \$10,000,000 first-mortgage bonds at $6\frac{1}{2}$ per cent. at a par value of \$100. A syndicate consisting of bank A as

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syndicate manager, and banks B, C, D, and E as underwriters, pools its resources or forms what is known as a joint account and buys the securities from the issuing corporation at a price of \$97. From the time of this purchase to the final disposition of the securities, the issue must be "carried" or taken over by the buying syndicate, which must provide the corporation with an amount equal to the purchase price of the securities. Funds are usually borrowed from commercial banks or trust companies, which accept the securities themselves as collateral on this amount. The banks lend from 70 to 80 per cent. of the total amount, while the underwriters furnish the remainder.⁴

In the same way, selling syndicates may be formed, consisting of fifteen to twenty associates, the number depending upon the size of the issue. In fact, the selling associates may assume "unlimited" or "limited" liability for the sale of the securities. In the former case, profits and losses are shared in proportion to the amount underwritten by each member irrespective of the actual amount of securities which may have been sold by the individual member. In the latter case, each selling associate is responsible only for the amount of sales which he has guaranteed.

As an illustration of limited liability, bank A has underwritten \$500,000, but has sold only \$300,000 and so it must take over the difference of \$200,000 at the dissolution of the syndicate. On the other hand, with an unlimited liability,

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bank A has underwritten securities to the extent of one-tenth of the entire issue, or \$500,000, and sells \$600,000 of these securities. Other members of the syndicate are not as successful in their sales, therefore at the dissolution of the syndicate there is still a balance of \$2,000,000. Altho bank A has effected sales in excess of its subscription, nevertheless, it is compelled to take over additional securities to the amount of one-tenth of the balance, or \$200,000.⁵

There are other ways of underwriting, but the basic service in each and all of the methods is to make available for the business enterprise "a definite, dependable amount of funds."

Another type of specialized intermediary or financial middleman is the commercial-paper house. This marketing agency receives no deposits except the contributions of its partners or proprietor. It extends credit to borrowers by buying their obligations. These obligations, promissory notes in the main, the commercial-paper house sells to commercial banks and individual purchasers. Generally speaking, the commercial-paper house does not indorse the paper which it buys and sells, so that this house cannot be held liable by the purchaser if the "instrument" is dishonored at maturity.

Still another important intermediary between lenders and borrowers is the commercial-credit company, sometimes called discount company or finance corporation. This type of company buys

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the "book accounts" or "accounts receivable" of business enterprises and collects these accounts as they come due. Almost every business enterprise sells some of its goods "on account," and many find it convenient to sell these accounts at a discount to the commercial-credit company in order to secure an immediate command of funds and instead of waiting until the accounts fall due and are collected. Trade acceptances and notes receivable are also discounted by this company. It is also used in financing installment sales. On the basis of these purchased and discounted obligations the commercial-credit company sells its own obligations to individual purchasers and to commercial banks, who thus become the real lenders.

The newest form of financial middleman is the institution which is known as the investment trust. This type of financial institution is distinctly a post-war development in the United States, altho London and Edinburgh investment trusts have a tradition that goes back six or seven decades. The first sizable American trust was started in 1921, but the rapid development of the investment-trust idea has occurred only during the past four or five years. Dr. L. R. Robinson defines this new financial institution as follows:

An investment trust is an agency by which the combined funds of many investors, both in

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large and small amounts, are utilized to purchase such a wide variety of securities that safety of principal is attained through diversification, while the portfolio is so managed that a good average yield is sought on share and borrowed capital. At the same time a close supervision of the portfolio permits a turnover policy aimed at the realization of the capital gains and the avoidance of capital losses.⁶

Fundamentally, there are three types of investment trusts: the general-management type, the fixed type, and the limited-management or semi-fixed type. The differences among these types are management differences rather than legal or capital-structure differences. In the first type the management has great freedom in shifting the investments of the trust, and any public knowledge of the holdings of the trust is nonexistent or only occasionally and partially available. The holdings of this trust may include a wide variety of securities, call money, commercial paper and bankers' acceptances, as well as stocks and bonds; both civil and corporate obligations; and foreign securities as well as domestic.⁷ The fixed type of investment trust allows little freedom to management. The holdings of this type of trust cannot be changed except in case of merger or reorganization, and information as to complete holdings is available to the public. The semi-fixed type of investment trust allows management to make changes in the list

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of holdings under certain circumstances and from limited lists of other securities. Investors are informed of any replacements and know what securities underlie their own investments in the trust. While, in general, the investment trust uses the funds which it has assembled to purchase listed stocks (shares in business ownership), nevertheless it is an important lender, because it purchases bonds, makes call loans, and lends on short-term notes as well. Unquestionably, it is a merchandising agency through which collected funds can be loaned or invested in ownership. It is, however, a merchandising agency which places a great deal of emphasis upon assembling funds.

Such are the most important lending institutions and the most common financial middlemen. Both the institutions and the middlemen are vitally concerned with the task of making funds available to business enterprises which need to borrow. In the exercise of this activity, they render a very real service to business and to society. As the reviewers of business projects, they have much to do "with the apportionment of our social resources among the enterprises of the community."⁸ Theoretically, they aid in that they make an impartial investigation of the merit of the proposal which is to be financed. Nevertheless, these institutions and these middlemen are operating business enterprises in and

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of themselves. They are operating in a business economy for the purpose of making profits. In this quest for profits, does the lender consider social needs or does he intensify the conflict between the aim of business and the aim of society? Just what is the rôle of the lender to-day as compared with the past? Is the lender furthering or hindering progress in the direction of a solution of the so-called economic anomaly?

In the past, our financial institutions have been able to dictate policies to going business enterprises somewhat at will. Moreover, the policies dictated have generally been policies which have been favorable to the lenders themselves rather than to the borrowing business enterprises, "except in those instances in which the two sets of interests" by mere chance have coincided. The willingness of the lender to make loans all too frequently has been conditioned by his own interests rather than by the needs of those engaged in producing and distributing goods. Commercial banks have refused loans which were essential to business enterprises because the proposed loans did not offer the desired money gains to the lending institution. Investment banks have been known to refuse to underwrite proposals which were essentially sound because the prospects of securing the desired promoters' or underwriters' profits were not clearly apparent. There have been plenty of

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specific instances of "restricted production" which can be directly attributed to the profit-making desire of the lender.⁹ It is small wonder that the statement is sometimes made that "instead of credit serving production, it appears that production is subject to the will or whim of credit."

There is, of course, ample historical reason for this dictatorship of the financial institutions. As our discussion of the evolution of business economy has already indicated, banking became a business while manufacturing was still in a handicraft stage. The lender was in a powerful position "when the factory system was born."

As modern capitalistic industry emerged, large and increasingly larger aggregates of capital were needed for the building and expansion of factories. The banks were the only sources from which the needed liquid capital might be secured. Therefore the banks became both owners and creditors of the new industrial enterprises. The increased production due to the factory system made available still larger resources for the banks, and so the growth of industry and the growth of banking were cumulative, each contributing to the other. Yet while manufacturing enterprises were turning out large volumes of wealth, their needs for both fixed and circulating capital tended for a long time to increase more rapidly than their own ability to supply it. Both the old enterprises and the constantly increasing new ones were compelled to cater to the banks to supply their financial needs.¹⁰

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At the present writing, however, the business enterprise appears to be becoming somewhat independent of the financial institutions. Since 1921, business managements have apparently given a good deal of attention and effort to the task of "growing from within." They have learned the lesson of forethought and have built up accumulated reserves and sinking funds against definite future requirements or against various possible contingencies. An adequate surplus is the best insurance against credit stringency, and the present-day business enterprise seems determined to be amply insured. Consequently, in addition to "plowing back" accrued earnings into the business from time to time, many enterprises are keeping their surplus on hand in highly liquid form for long periods. By supplying their own capital and by preserving a large and liquid surplus, such enterprises are gradually freeing themselves from the dictatorship of outside financial institutions.

In fact, large portions of such surpluses are being invested in securities, and thus the business enterprise itself is entering the field of banking. Business surpluses compete with banking funds. Many corporations are to-day making "banking" profits by lending portions of their surplus to other enterprises. "Thus these surpluses actually are supplying investment credit

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to other concerns, whose surpluses are, in turn, invested in the securities of still other concerns."

The growth of the corporate items of "cash" and "securities" has been extremely rapid and is certainly significant. On December 31, 1921, 106 major companies in 18 different American industries had over and above their notes payable some \$221,000,000 of cash and marketable securities.¹¹ In the short period of six years these same companies had increased their cash and security holdings to \$1,670,000,000. The *Wall Street Journal* of June 2, 1927, gives an analysis of the reports of 129 corporations for the year ending December 31, 1926, which shows that the 129 enterprises had cash and security holdings which totaled \$2,251,365,355, an increase of \$292,134,031 over their record for 1925. The *Wall Street Journal* commented in part as follows:

United States Steel Corporation heads the list in total cash and security holdings with \$317,933,603, a gain of \$22,588,651 over the preceding year. Standard Oil of New Jersey comes next with \$210,447,186, General Electric third with \$147,536,549, and General Motors fourth with \$135,398,386. There are eleven companies in the list with aggregate cash and security holdings of close to \$1,000,000,000.

In this process of strengthening their financial position the larger business enterprises have not gone into the "banking" business merely by

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lending to other concerns through the purchase of securities. Many, indeed, have organized their own privately operated commercial-paper houses. The Industrial Acceptance Corporation of the Studebaker Corporation and the General Motors Acceptance Corporation are "banking" efforts in the direction of supplying credit to customers and at the same time securing cash from deferred-payment sales. Even the smaller business enterprises which are located in the less important industrial centers are becoming owners of banks which conduct a general commercial or investment business.

In addition to this growing financial independence of the business enterprise there is ample evidence that the interests of the lender and of the business manager are becoming "more nearly identical."¹² As a class, the banking lender is no longer set so sharply apart from the trading or manufacturing business enterpriser. Our industrialists and merchants are becoming officers and principal stockholders of financial institutions in larger numbers every year. This intermixture of bankers and business enterprisers on the boards of our financial institutions tends to cause any serious conflict of purpose to disappear. When the directing officers of a bank are composed in part by men who are the active owners as well as the creditors of business enterprises, mere banking-profits

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possibilities will cease to be the all-important determinant in making loans. On the higher levels the functions of the "lender" and the "enterpriser" merge.

Another significant tendency which appears to be operating toward a merger or a unification of the interests of financial institutions and of merchant or manufacturing enterprises is the organization and operation of separate securities companies by the large commercial banks. These subsidiaries perform all the functions of investment houses and purchase the stocks and bonds of industrial corporations.

Finally, it should be pointed out that in instances of promotion and underwriting by investment-banking houses, the profits secured by the promoters or underwriters generally consist of stock in the companies which are being financed. In such cases, the ultimate profits to the investment house would seem to be bound up quite intimately with the profit-making operations of the industrial corporation which the investment house has financed.

Two of the best-known of our giant holding companies engaged in manufacturing are the United States Steel Corporation and the General Motors Corporation. Both of these companies were conceived and organized by bankers. And the bankers who promoted them continue to own large blocks of their stock. In fact, these blocks of stock may be regarded as among the chief

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assets of the bankers. It is difficult to imagine a gain to be made from any financial operations as bankers which would be large enough to justify a sacrifice of the companies in which they are stockholders. Nor is it probable that they willingly will permit any other group of bankers to reap any benefit at the expense of the companies.¹³

By and large, then, the rôle of the lender is to review the projects and proposals of management not alone from the point of view of possible "banking" profits, but with a recognition of the fact that credit facilities are an essential necessity of business. While in actual lending practise many instances of spectacular financial manipulation may be cited, in the main, the tendency toward "the granting of credit as a matter of routine upon the presentation of specific kinds of security or the establishment of a certain level of operations, as shown by a suitable statement, and the abandonment of the type of operation in which credit was granted merely because of personal considerations" is clearly indicated. The services of financial institutions in extending technical aid to their creditors by means of the employment of marketing experts, industrial engineers, and even research specialists is seeming evidence that the financial institutions are attempting to

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become more than mere lenders. As purveyors of credit, they are attempting to facilitate the use of the credit by business enterprises in the process of making more goods and more money.

X

THE RÔLE OF THE CONSUMER

SOMEWHERE there is an old tale that goes in part as follows: " 'Their pockets are full of money,' said the Keeper of the Inn, 'but there is not a mother's son of them that knows what to do with it.' " Such is the picture of the average consumer which is often seized upon in these hypercritical days. It is easy to portray the consumer in this present world of amazing amounts of available goods as wandering perplexed and bewildered in a Wonderland of Wares. The bold and facile pen-strokes of the following consumer's chromo bear witness to the method:

Wonderland indeed! A wilderness in which we consumers wander without chart or compass! We buy not for the value of the product to meet our specific needs, but because the story told on every billboard, every newspaper and magazine page, every shop window, every sky sign, every other letter that we receive—is a pleasing, stimulating and romantic story. It bears a Message Straight to our Hearts. But whether or not it is a fairy story we do not know, save through the bitter and wasteful process of trial and error.¹

Unfortunately, the vividness of the picture may cause us to miss a most important and essen-

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tial point. That point is here: No matter how ineffectively and haphazardly the consumer may practise the science and art of consumption, no matter how unconcerned he may be with respect to any individual necessity for technical buying knowledge, still, the consumer has the whip-hand in determining what goods shall be produced.

Business management may play the most active rôle in guiding production. The technical expert may advise and guide the process of production. The lender may approve or reject technical suggestions which have been accepted by management. But in the end the whole body of consumers with money to spend plays the rôle of the court of last resort in deciding what goods shall be made. Because the consumer is an individual, he has individual ideas about what he wants to buy, no matter how fuzzy, vague, and troublesome these ideas may be. Furthermore, if the consumer is free from the restraints of monopoly and of government, the expression of these ideas determines for the most part what is to be produced. The act of spending money expresses the consumer's wish and forces the producer to set up consumers' demand as the final arbiter of production, both in amount and in kind. "Whether the consumer refuses to comply with the wishes of the maker, or the maker refuses to comply with the wishes of the con-

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sumer, in either case it is the maker who suffers; it is 'Heads you win, tails I lose.' ''² There is no appeal from the court of last resort.

All along the line, from the raw materials to finished consumers' goods on the shelves of the retail store, every business enterprise which is concerned in any way with buying, manufacturing, storing, transporting, grading, or financing any part of the process must assume heavy risks. And the most important business risk is the uncertainty of the way in which the buyer will make use of his freedom of choice. The flow of money-profits through the consumers' markets and into the coffers of business is directed and conditioned by the daily exercise of freedom of choice on the part of millions of individual buyers.³

The individual buyer who has money to spend enjoys three options. He is privileged to decide when he will buy, where he will buy, and what he will buy.

He has definite freedom of choice with respect to the time of spending his money. That portion of his money-income which he does not need to keep himself alive or to pay taxes, he may withhold and refuse to spend as long as he pleases. The very fact that we live in a money-profits economy makes possible this kind of freedom of choice. Money has introduced the time-factor into business transactions. Under a system of

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barter-economy, purchasing power can be withheld only in the form of commodities such as hides, measures of wheat, goats, tobacco, wool, tomahawks, and the like. The ability to withhold commodity-purchasing power is sharply limited so far as profit-making is concerned. Commodities spoil as money does not. Commodity-purchasing power involves handling costs which will eat into profits made by exchange in later markets. Commodity-purchasing power may depreciate on account of changing needs. Customs, fashions, weather, etc., are factors which do not affect money. In the main, bartering transactions are "spot" transactions. The man who uses the purchasing power of his bear-skin demands and receives at once the sack of corn which he desires. The transaction is complete and finished. In other words, under a system of barter-economy the repayment of goods for goods is not deferred, while under a system of money-economy money furnishes the means of deferring such repayment.

In the second place, the individual buyer who has money to spend has freedom of choice with respect to where he will spend his money. Once again this particular phase of the consumer's freedom of choice is largely made possible by the fact that we are living in a money-economy. The barter-trader is sharply limited in his geographical range of choice. In a money-economy

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the individual who wishes to apply his purchasing power in a market thousands of miles from his home can easily do so by mail, telegraph or cable.

Under a barter economy, a dealer could not ship skins from Chicago to Bordeaux and, before the skins had left the freight yards, obtain payment in gloves at Chicago. Yet this is typical of the transactions that money and bank credit have made every-day occurrences.⁴

Again, the individual buyer who has money to spend has freedom of choice with respect to what he will buy. He may use his money to buy a hat, a mechanical refrigerator, a factory, or a rare painting. The manufacturer of an electric refrigerator has to sell his product at some time or another. But the buyer may buy a gas refrigerator or a new car instead, as he chooses. Under a barter-economy commodity-purchasing power is far from mobile, and so is the available stock of goods. Sudden shifts in buying-fancy, now to substitutes, now to unrelated non-essentials, now back again to the products originally favored, are merely the results of the exercise of the buyer's option as to what he will buy.

Buying is no longer a matter of supplying needs alone, but a matter of choices freely exercised. Since 1900 the population of the United States has increased 40 per cent. The wealth

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per capita is four times as great as it was in 1900. Bank deposits are over six times as great, and bank clearings are over four times as great. Unquestionably the consumption of consumers' goods has expanded at a much more rapid rate than has the population. In the nine years following the beginning of the World War there took place an increase of 25 per cent in the purchasing power of the American people.⁵ Such an increase was wholly unprecedented and inevitably brought with it "substantial changes in consumption." In other words, at the present moment, the consumer's dollar is far from wholly mortgaged to the inescapable task of providing a bare existence.⁶ There is a generous segment of the consumer's money-income which he can spend at his own option as to when he will buy, where he will buy, and what he will buy.

There is little question but that the consumer uses this freedom of choice quite remorselessly. Certainly, he injects into the plans and projects of large-scale business a dangerous and important element of uncertainty. In the case of consumer's goods, in particular, the refusal to buy, or the shift of purchasing power from one type of consumer's goods to another, keeps business management at its wits' end to see and follow the leads of the consumer's fancy. The producer or handler of consumer's goods can ill

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afford to neglect or ignore the buyer's freedom of choice.

Every day, in the United States, at least sixty million people, exercising this freedom, spend at least one hundred million dollars. Every day they buy the commodities and services of their choice, and no others. Do they choose to spend one seventh of their income on motor-cars and motor-car supplies? Very well, no one can stop them. Do they refuse to buy certain magazines and certain styles of shoes? Again, they do exactly as they please. They flock to *Abie's Irish Rose* after all the theatrical managers have decided that they will not. They buy *Main Street* eagerly until April; then—presto!—they stop buying *Main Street*. Women wear furs all summer or refuse to wear them at all, as suits their fancy. . . . All consumers, men as well as women, are free to-day to choose as illogically, as unwisely, as capriciously, as extravagantly, as they please. And to-morrow is a new day: what they will demand to-morrow nobody knows.⁷

The most common objection to this idea of freedom of choice is the idea expressed in the quotation from Stuart Chase at the beginning of this chapter—that this freedom of choice is restricted on every hand by all the beguiling arts of advertising and salesmanship. The assumed distortion of consumer's desires by advertising and personal salesmanship is the usual cry of the social reformer.⁸ Unquestionably, the expression of consumer's choices is more a matter of habit, imitation and suggestion than reflec-

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tive choice. Conscious of this well-established fact, business management spends large sums of money in efforts to stimulate demand and to direct it into profitable channels. Business management, moreover, has discovered that in general it is easier to appeal to the emotions than to the intelligence, and consequently many selling appeals are designed to influence the biological human being rather than some ideal mechanistic Televox.

Whatever may be the technique of modern advertising and salesmanship, the fact remains that both marketing forces are merely forces of influence and not of restriction. The consumer still exercises his freedom of choice. That choice may be unwise and illogical by classical economic standards, but it is nevertheless the consumer's individual choice. "No matter how many times he is urged to eat an apple a day to keep the doctor away, he is free to eat something else; no matter how many billboards point their arrows at him, he is not obliged to chew gum." "He will not eat "yeast for health" if he does not like its taste and does not care to drown it in a malted milk.

Moreover, persuasive marketing is only one of the innumerable factors which influence the consumer in his choices. Individual psychology provides the "mechanism by means of which choices arise and consumption takes place."

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Social psychology, too, has its place. The popular habit of "keeping up with the Joneses," which has been so widely satirized in the comic strip, lays its hold upon all of us even while we laugh at it. Biological and environmental factors which we take very much as a matter of course play their parts in influencing choices. By and large, however, these forces are not restrictive. The consumers' freedom of choice still remains as a determinant of production.

Changes and modifications of living conditions all have their influence upon consumption, tho that influence is seldom purely restrictive of freedom of choice. For example, the average wage paid to domestic servants is to-day almost twice what it was in 1900. In addition the cost of such labor has increased by reason of the fact that domestic servants to-day demand very much more as to their "keep" and do less work than was formerly the case.¹⁰ As a result of these changed conditions, the number of cooks alone decreased by over 150,000 between 1910 and 1920, and the total decrease in the number of domestic servants was 300,000. Again, the increase in apartment-house living has had its effect on consumption. The shift from private homes to apartment houses immediately affects purchasing habits through the reduction in storage space and a greater dependence upon readily prepared foods. The rapid extension in

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the number of electrically-wired homes has turned increasing amounts of the money outlay into the treasuries of the makers and sellers of electric household appliances. The cheap automobile and paved roads have moved millions of farmers nearer to well-stored retail markets. The circulation of magazines, the motion picture, and the radio have spread the knowledge of new offerings and new ways to spend money into almost every home.¹¹ These influences and many more all condition the consumer's will to choose. Strictly speaking, however, none of these influences vitally restrict his freedom to choose among all the products that are offered to him.

Because of the freedom of choice which the customer enjoys, and because of a widely increased purchasing power, it is natural that queer congeries of questionable choices result, and that these are reflected back to the producer who is in search of a profit. Unquestionably, in recent years, the will to buy has enormously expanded in the realm of jimcracks and "non-essentials." Consequently the production of jimcracks and "non-essentials" has increased, a type of production which from the strict economic point of view may be considered a sheer superfluity. It may be quite all right to bemoan the fact that:

We are deluged with things which we do not wear, which we lose, which go out of style,

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which make unwelcome presents for our friends, which disappear anyhow—fountain pens, cigar lighters, cheap jewelry, patent pencils, mouth washes, key rings, mah jong sets, automobile accessories—endless jiggers and doodads and contrivances.¹²

But we do need to remember both that we ourselves do not need to buy these things and that some one other than ourselves may want them and evidently does want them or they could not be produced and sold at a profit for long. The consumer in the mass is hard to judge. He is usually "outside our own circle." And so it is easy to believe that a large part of mankind "wearies itself in consuming things that it does not really want and vying with itself in vulgar ostentation and waste."¹³

One advertising expert has gone so far as to set up definite statements of what "Man the Consumer in the Mass" will and will not do. A glance at these two lists will show us the vagaries of human nature which appear to make for the lack of intelligence in a "freedom-of-choice" consumption. Mr. Kenneth Goode asserts that Man in the Mass:

1. Won't look far beyond his own self-interest.
2. Resents change and dislikes newness.
3. Forgets past and remembers inaccurately.
4. Won't fight *for* things when he can find something to fight *against*.

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5. Dares not differ from the crowd unless certain his difference will be recognized as superiority.
6. Except in high emotion, won't exert himself beyond the line of least resistance.
7. Won't act, even in important matters, unless properly followed up.¹⁴

As opposed to this list of "won'ts," Mr. Goode sets up a list of "wills." He asserts that Man in the Mass:

1. Follows a habit until it hurts.
2. Accepts his beliefs ready-made and sticks to them till the cows come home.
3. Follows his leaders, eyes shut, mouth open; and stands by his friends even when he knows them.
4. Yields to suggestion when properly flattered.
5. Works hard to establish superiority in the eyes of his equals.
6. Finds his greatest interest in his own emotional "kicks."
7. Loves low prices and dislikes economy.
8. Glorifies the past and discounts the future.¹⁵

To understand the consumer and some of the effects of his capricious will to buy, we need to realize, first of all, that when any large body of consumers experience such an increase in earning power as has taken place in the United States during the past few years there is added a new and larger surplus for "non-essentials." Common sense as well as Engel's¹⁶ laws of consumption will tell us that as income increases

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the proportion of income spent for food decreases, the proportion of income spent for rent, clothing, fuel, and light remains for the most part unchanged, and the proportion of income spent for sundries increases.

In the second place, the buyer of consumer's goods is concerned with "value in use" and that value is the consumer's total attitude toward the goods. It is a serious mistake to assume that the consumer buys goods for their intrinsic properties alone or even in the main. The standards for the measurement of utility which are applied by the government in making purchases of accessory goods, or by the manufacturer in buying raw materials, are not used by the purchaser of consumer's goods.

The consumer likes or dislikes, and analyses can be hanged. A Sargent portrait may not be intrinsically as good a likeness as a snap-shot photograph, but the consumer may feel that there is no comparison in their relative desirability; a bar of soap daintily wrapped may be no more cleansing than one gray with exposure, but perhaps the consumer may weigh the pleasure derived from appearance quite heavily in choosing between the two."

The average consumer's will or decision to buy consumer's goods is not a matter of fundamental needs or of intrinsic qualities in the goods themselves, but rather a matter of a "purely subjective idea of desirability."

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Finally, the family is still the dominant unit of organization for the consumption of consumer's goods. This fact is also something of an obstacle in the way of applying extraordinary intelligence to consumption. The consumer certainly furnishes little impetus for the progressive development of such sciences as psychology, anthropology, preventive medicine, public health, and nutrition, which might be of further assistance in furnishing basic data. The consumer not only fails to furnish impetus; he, or she, is also unconcerned with what has been discovered. Very, very few families want to live in a home which is a kind of laboratory for trying out new ideas. Whenever in this modern world a family tries to make something of the home, the tendency is to regard it as a sacred institution, to lean rather heavily upon the past for guidance. The tired business man wants his home to approximate the old family-farm homestead in the hills or the valleys, but with the addition of a radio and a car. The tired business man's wife either falls in with the same notion and becomes an old-fashioned wife, or leaves the home to the haphazard and exasperating management of domestic servants and finds a business position in the workaday world. The younger generation sets up a home in the most aristocratic apartment in the city's "best" section and makes one room serve for bridge, a quick change of clothes,

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and a few hours' sleep in the beds that pull out of the wall. "Nobody, it seems, wants to stay in the home and be progressive inside its four walls." ¹⁸

It is rather generally claimed that nine-tenths of all buying is done by the women of the household. It is clear that what food is used in the home is purchased by the housewife or servants under her direction. And so it is with the furniture and fixtures, and even the men-folks' cravats. She very largely influences the amount of money spent for shelter, recreation, and sundries.

The business man is usually trained for the job of making, handling, and selling goods. But the housewife is seldom trained in the technicalities of buying. She

is not selected for her efficiency as a manager, is not dismissed for inefficiency, and has small chance of extending her sway over other households if she proves capable. She must buy so many different kinds of goods that she cannot become a good judge of qualities and prices, like the buyers for business houses. She is usually a manual laborer in several crafts, as well as a manager—a combination of functions not conducive to efficiency. ¹⁹

This does not mean that the average housewife is less intelligent than the average business man, but simply that her job is more exacting, both because it is not so highly specialized and be-

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cause adequate training in it is neither available nor considered necessary. The housewife cannot get the practical help from physiology and psychology, for example, that her husband can secure from physics and chemistry.

Moreover, the business man systematizes his planning on the basis of a money-profits accounting. The incentive of profits is consistently and continually before him. New methods which promise new or additional profits are seized upon and tried out at once, because the profits earned will depend to some extent on being just a step ahead of a competitor. The housewife, on the other hand, waits until many other housewives adopt the new method. The welfare of the household is not as effective an incentive. The dollar is a satisfactory unit for reckoning profits as well as costs, but not for expressing family welfare.²⁰ In other words, family welfare cannot be easily tested or displayed. It does not lend itself to accounting or to accurate measurement. The prospect of definite results and individual reward are not apparent, and consequently the motive force which must stimulate effort is decidedly weak.

If we turn our attention now, for a moment, to producer's goods used in making consumer's goods and producer's goods used in making other producer's goods, the consumer, in the sense of an individual or household, controls

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demand in a lesser degree. In the case of this general type of commodity, business management and its technical advisers have a larger element of discretion. The demand for producer's goods, of course, depends upon the demand for consumer's goods in the long run, but the timing of business purchases of producer's goods is not rigidly bound by the timing of individual or household purchases of consumer's goods. The farther the process of buying is removed from retail counters, the less immediate control over production is exercised by the individual or household consumer.

Irrespective of the influence of the demand of the individual or household buyer of consumer's goods which reflects itself back to the demand for producer's goods, it is a fact that the demand of the immediate user of producer's goods exercises a rigid control over the maker of producer's goods. The manufacturer who buys raw materials, fabricating goods, accessory goods, and installation goods, is an exacting buyer, and his methods are as scientific as it is possible for expert purchasing agents to make them.

Broadly speaking, such a buyer attempts to use six methods in his purchasing, each one of which has a direct influence upon the maker of these producer's goods.

In the first place, the attempt is made to buy producer's goods at the "correct" time of

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the market. Under uncontrolled conditions the heaviest purchasing by the average user of producer's goods would normally be done at the high points of the market, and the lightest purchasing at the bottom or near the bottom of the market. The scientific purchasing agent seeks to control this process and reverse it by making large purchases near the bottom of the market and small purchases near the top. To the extent that the individual purchasing agent achieves this aim he gives his company a competitive advantage over other companies which give this matter little attention. As more individual concerns adopt this practise, purchasing peaks tend to be leveled and the manufacturer of producer's goods is enabled to adopt a more even production schedule.

Again, the scientific purchasing agent attempts to buy at the correct price at the time the purchase is made. He does not accept the idea that competition always gives the proper purchase price. He knows that by studying the relative costs of raw materials used in the manufacture of such producer's goods as fabricating goods, accessory goods, and installation equipment; by considering the cost of labor involved, and by making a fair allowance for general expenses and a reasonable profit, he can in an increasing number of cases indicate to suppliers

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that quotations are not correct and that price revisions are in order.

The standardization of materials and supplies is also practised by the scientific purchasing agent. Almost continually he is engaged in analyzing the items which he buys with respect to class, quantity, and exact qualities. He keeps in close touch with his concern's technical and research experts, and is guided by them in his purchases as their efforts discover or adapt materials and their uses. He joins a trade association, the National Association of Purchasing Agents, and subscribes to a campaign for the adoption of a Standard and Simplified Invoice Form and a National Standard Vender Catalog. All these efforts tend to enable the manufacturer of producer's goods to judge his markets with respect to kinds of goods desired with considerable accuracy and precision.

The scientific purchasing agent also attempts to achieve a centralization of buying which has as one of its corollaries buying in quantity. He tries to avoid breaking down his opportunities of quantity-buying by distributing too largely his requirements among several or many sources of supply. He knows that one or two contracts for large quantities of a specific item over a long period will result in better prices and services than a large number of small contracts for the same item. Consequently, he appreciates

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and increasingly uses long-term contracts with his suppliers. This tendency enables the makers of these supplies, in turn, to apply a considerable amount of business judgment to their own problems of purchasing. They also find it possible to purchase materials in quantity and at the proper time of the market.

Finally, the buyer of producer's goods gives a good deal of thought and attention to the cost of bringing equipment, materials, and supplies from the point of production to the point of use. The modern purchasing agent attempts to formulate, roughly, at least, geographical zones of production which may be called upon to serve certain geographical zones of need. This practise tends to develop a new type of competition in that there is competition between zones of production rather than between individual producers. At the same time there is considerable opportunity for the reduction of freight rates.²¹

In spite of the less direct and immediate influence of the individual or household buyer of consumer's goods upon the production of producer's goods, that control always exists. It may be passive for a time, and then suddenly active. In an age of hand-to-mouth buying, overstocked retail shelves very quickly mean overstocked wholesale warehouses and a sharp and large reduction in the purchase of producer's goods. Then the maker of producer's goods is forced

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either to accumulate dangerous inventories in order to keep his factory wheels turning, or to stop production for a costly period of time and readjust his equipment and methods to the problem of manufacturing other types of goods. .

Thus, the individual and household consumer, with all his biological and psychological idiosyncrasies, is the final judge of production.

XI

THE RÔLE OF THE GOVERNMENT

THE first function of government is protection. The primary aim of the government is or should be, to protect the group which is under its care from other groups that war upon it, to protect the group from the individuals in the group, and to protect the individuals from the group and each other.¹ Predatory doings must be inhibited. The second function of the government is the promotion of the general good, a function which in its extended meaning perhaps includes the first. It is used here, however, in the sense of the actual creation of conditions which are conducive to the best interests of society rather than in the sense of any determination and indication of what may or may not be done in the pursuit of self-interest. The third function of the government is the regulation of the specific modes of conduct of individuals who are similarly situated. This function aims to standardize and to indicate what must be done by stated parties in stated relationships with other parties. So considered, government may be defined as an institution which protects, promotes, and regulates the other institutions of the society which is under its political jurisdiction.²

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So far as the form of our government is concerned, we are, of course, politically committed to what Disraeli stigmatized as "that fatal drollery called representative government." Under the prevailing representative system, our government struggles toward the protection, promotion, and regulation of the "general good" on the theory that the will of the majority is a working formula that in the long run will result in the "general good." Unfortunately, the widespread right to vote is indifferently and negligently used. The will of the minority too frequently prevails. While it may be the self-seeking will of a small minority, yet it is usually a cautious will. And it is cautious because of democracy. The minority may often assume with accuracy that there is no widespread and positive mass opinion on a particular problem.

Yet slumbering power is there, in the ballots of the masses; and those who govern must be wary not to arouse the heavy sleeper in respect of those relatively few matters political that are within his interest and his comprehension. In theory the rule of the people is the driving force of the ship of state. In usual practise it is far more comparable to a mildly retarding head wind. The driving force is a thing of great complexity and some mystery operating in the deep, dark bowels of the ship.³

Many of our realistic critics of representative government are quite positive that in its larger

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tasks democracy is doing a poor job. Too often these critics take little account of the amazing multiplication and the bewildering variety of democracy's problems. Hence they hurry the application of the adjective "poor," and fail to recognize the relative differences of capacity and control that exist in the whole sweep of governmental relationships to the problems of society.

One phase of the enlarging burden which rests upon our government has been brought about by the growing complexity of modern business and its increasing reliance upon the government. The question of the proper relationship between business and the government is an ever-present and troublesome problem. In our democratic laboratory we are experimenting with theories of relationship which will fit in with the aims of government and still preserve individual incentive. Some of our experiences of the past generation have been unfortunate. They have revealed the fact that too much governmental intrusion upon the affairs of business inevitably implies, especially in a democracy, "the most dangerous temptations to bureaucracy and demagoguery."⁴

The whole problem of the relationship of government to business is not new, nor is it exclusively characteristic of our representative government. Most of the world's national governments have been wrestling with it for centuries.

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How vital it is that government shall attempt intelligently to determine what it may do to stimulate business or to suppress and stifle it is shown by the experience of Russia.

At the Geneva Conference in 1921, pleading for international help and pleading that their industries were prostrate, Russia made the official statement that this great agricultural country had sunk under government direction to 12 per cent. of agricultural implements production and 6 per cent. of plow production as compared with pre-war conditions; this, in a country equipped with coal, iron, oil, timber, and idle labor.⁶

In essence, an improper governmental relationship to business and industry succeeded in breaking down individual incentive and effort. The unsound projection of the governmental aim into the business of Russia has caused that great agricultural country to call upon the outside world for food to fight its famine twice since the armistice.

In our country, the control of government over the conduct of business has been rather largely limited to an attempt to maintain full and free competition and to maintain that competition on a high plane. In carrying out this general attempt the government, of course, relies upon laws or rules of conduct which it promulgates and enforces. In our nation, the foundation of law is the Constitution, which

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delineates the structure and powers of the government as well as the rights, privileges, prerogatives and exemptions of both citizens and aliens. These fundamental guaranties and prescriptions may be "elaborated or given effect," but they may not be abrogated or abridged by statute.

The two main forms of law are common law and statute law. Common law began more than a thousand years ago in England, growing up out of the "usual practises" of the land. It has changed and expanded throughout the years and still prevails on a wide scale. Common law is sometimes called "judge-made law" or "court-made law," but it is essentially law that grows out of the customary practises of a people. The judges merely render decisions in accordance with these customs or practises.⁶ Under agrarian and handicraft conditions "judge-made" law provided tolerably sufficient social control. But with the expansion of business and the increasing complexities of business relationships the system of common-law control became far from adequate. As a system, it is intensely individualistic. Under the rules, every individual is the guardian of his own rights and must suffer the consequences if he fails to assert his rights. Consequently, statute law became necessary.

Statute law supplements common law. It may bring together into one code various parts of

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the common law, so that everyone may be clear with respect to the law. It may destroy an obsolete portion of the common law or it may lay down rules concerning a new problem on which common law has not had time to develop. The onward press of statute law has not usurped the entire realm of common law, but it has been the natural result of insistent social demands expressed through the government.

The old law of private nuisance, for example, depending on suit by one aggrieved and proof of specific injury to him or his property, gave inadequate protection either to the individual or to the public. It had to be supplemented by the law of public nuisance. Merely to commit an act that might lead to or constitute this or that nuisance was made an offense. No proof of injury to anyone was necessary.⁷

In the highly developed business economy of the moment, statute laws are multiplying with perplexing rapidity. "Mass production is as characteristic of some legislative mills as it is of industrial factories." Business management as never before must be guided by expert legal advice. By means of statute law, the government has extended its efforts at social control through the whole framework and organization of modern business and its activities.

Moreover, the government has seemingly realized the impossibility of guiding and controlling

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the intricate relationships of business by means of the courts and the law-makers alone. Common and statute law cannot be elaborated quickly enough to meet the speed and variety with which business relationships change. Individuals in society are really impotent when it comes to enforcing their legal rights against large-scale business enterprises. The courts are organized to settle controversies. They are remedial institutions and not preventive agencies. Consequently, the government has established many preventive agencies of mixed powers, legislative, executive, and judicial, through which it attempts to make more effective its social control of business enterprises and their operations.

This development of governmental control by law and by administrative agencies is highly significant in a number of respects.

First, while individuals initiate some of the "cases" before these agencies, the agencies themselves, on the basis of their own fact-finding, initiate many others. Second, the persons or enterprises subject to control are put under the requirement to secure advance permission for many performances. Third, and most important, if litigation of rights ensues, the parties to the controversy are, at least in theory, appropriate parties. It is not the suit of a Lilliputian against a giant; it is a controversy between a giant and an agency of government acting in behalf of a horde of Lilliputians.⁸

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Obviously, it would be impossible here to discuss any large number of the statute laws, local, State, and National, or to describe all the agencies through which government exercises control over modern business. All that can be done is to indicate some of the more important restrictive (protective), promotive, and regulative efforts of the government.

The restrictive activities of the government are essentially negative in character. They are concerned with prohibiting certain lines of conduct, with specifying what not to do. The prohibitions which the government sets up are intended to prevent "any person from depriving another person of the liberty and property rights conferred upon him by the Constitution." The anti-trust laws are statute laws which express this type of restrictive governmental control.

The first important Federal anti-trust law was the Sherman Anti-Trust Act of 1890. By their rapid growth, the "trusts" seemed destined to control the whole economic organization of the country. The idea of monopoly has always been repugnant to the American people, and the trusts were regarded as monopolistic and highly dangerous to the freedom of competition. Public opinion quickly demanded protective legislation, and the Sherman Act was passed. The two most important sections of the act are as follows:

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SECTION 1. Every contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal. Every person who shall make any such contract or engage in any such combination or conspiracy, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding five thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

SECTION 2. Every person who shall monopolize, or attempt to monopolize, or combine or conspire to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a misdemeanor, and, on conviction thereof, shall be punished by fine not exceeding five thousand dollars, or by imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

At first this drastic law had little effect. Few cases were started, and, except in very minor cases, the law was not used until 1904. In 1911 the Standard Oil Company was declared in "restraint of trade" and was ordered to dissolve. Shortly afterward the American Tobacco Company was also dissolved.

In 1914, the Clayton Act was passed with the purpose of defining more clearly the meaning of the Sherman Act. This new statutory legislation prohibits local price discrimination, tying

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contracts, holding companies, and interlocking directorates. These practises are definitely declared to be acts of unfair competition.

In the same year, 1914, one of the government's most important agencies of control was established by the enactment of the Federal Trade Commission Act. The commission is composed of five members appointed by the President with the advice and consent of the Senate. The members hold office for seven years. The commission has wide powers of investigation either on its own initiative or on complaints brought to it by interested parties. It reports to Congress and submits legislative recommendations. It employs a number of investigators and examiners who look into the merits of complaints or initiate complaints. The commission states its charges in the complaint and requires the business enterprise which is under investigation to file an answer—to establish its innocence by evidence. If the commission's Court of Review decides that the complaint is valid, the commission usually issues an order to "cease and desist." In case the order is not obeyed, the commission applies to a Federal court for support. In a majority of instances the commission has been sustained by the court. This governmental agency is obviously a preventive agency of control rather than a punishing agency. It is charged with the task of prohibiting business

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methods which are "characterized by deception, bad faith, fraud, or oppression, and methods regarded as against public policy because of dangerous tendency unduly to hinder competition or create monopoly."

During the year 1923, the commission considered fifty-eight complaints involving false and misleading advertising, thirty-one complaints involving resale-price maintenance, eleven complaints concerning the passing off of a competitor's name or goods, ten complaints with regard to price-fixing, eight complaints of misbranding, three complaints charging conspiracy to injure competition, three complaints with regard to disparagement of competitor's name or goods, and sixty-seven other charges ranging from coercion to combination to effect monopoly.⁹ This variety of activity shows that the Federal Trade Commission is intimately concerned with the fairness or unfairness of business methodology.

The commission has also made many detailed investigations which have provided a store of information on business organization and practices. Among others it has published reports on the grain trade, including future-trading, meat-packing, book paper, news-print paper, flour milling and jobbing, sugar supply and prices, and wholesale marketing of food. Recent investigations have dealt with advertising agency

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practise, the assembly of opinion on resale-price maintenance, and chain-store methodology.

It would be impossible to enumerate all the statutory legislation of a restrictive nature. Local, State, and Federal laws of this type exist by the hundreds. They are being added to continually and will grow in number until we work out an economic Eden, if that is possible.

The promotive efforts of the government are also many and varied. In a country as large and as busy as our own, there are many opportunities for the government to be of invaluable assistance to business. Problems there are a-plenty. Financial panics hung over our business heads for years. Epidemics of cattle diseases wipe out livestock growers. The boll-weevil ruins the cotton crop. The Japanese grub and blister rust destroy a forest of lumber. The Mediterranean fruit-fly works havoc with anticipated citrus profits. The lack of proper shipping facilities reduces our merchants to dependence upon foreign carriers. The shallow waters of the inland rivers retard the development of the hinterland. The intrushing flow of foreign-manufactured goods swamps our markets with cheap offerings. Such are just a few of the problems with which government may be concerned and toward which promotive measures may be directed.

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The United States Department of Agriculture, with its eleven active bureaus, is an important figure in our government's promotive program. Statistical information on the condition of the markets and estimated production as well as weather forecasts are continually sent to the nation's farms. Information and advice in farm production and scientific animal husbandry are given to the farmer by technical experts. When the potatoes show signs of blight or when the hogs are sick, agricultural specialists pay the farmer a visit, determine the cause of the evils and aid in their eradication. When seed is short the government supplies it. When it is discovered that the Mediterranean fruit-fly is destroying the orange, lemon, and grapefruit crop of Florida and is spreading its ravages to the north and west, the government sets up a fund of \$28,000,000 to fight the pest. For ten years, government tree specialists have been studying the chestnut blight in an attempt to save the few remaining chestnut trees. The government's war against the boll-weevil, costly and extensive as it is, continues to go forward.

The Department of Commerce keeps American business managements thoroughly posted on the condition of foreign markets. It aids them in foreign marketing methodology and keeps them advised of trade and investment opportunities. The Department of the Interior maintains the

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Patent Office and the Bureau of Education. It conducts reclamation projects which require the expenditure of millions of dollars in making swampy, woody, and malaria-ridden land ready for habitation and cultivation.

This enumeration of promotive governmental services could be carried on almost indefinitely, but enough has already been said to indicate something of their number and variety.

Perhaps the most spectacular promotive efforts of our government have been in connection with the establishment of such agencies of control as the Federal Reserve System, the Shipping Board, the Tariff Commission, and the Federal Farm Board.

The Federal Reserve Act was passed in 1913, and the banks were opened in 1914. The act divided our country into twelve districts, each of which has a central bank called a Federal Reserve bank. The entire system is under the guidance of the Federal Reserve Board, which is appointed by the President. All national banks are required to be "member banks" in the system, and State banks and trust companies may join the system by complying with certain conditions. The stock of each Federal Reserve Bank is owned by the member banks in its district. The board of directors of each regional bank is composed of six directors elected by the member banks and three directors ap-

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pointed by the Federal Reserve Board. None of the twelve Federal Reserve Banks are run for profit. After six-per-cent. dividends have been paid and conservative surpluses have been built up, any additional profits go to the Federal government. The Federal Reserve banks are called banker's banks, because they lend to and receive deposits from member banks. They do not deal with individuals. Member banks are required to keep definite reserves with their regional bank, thus forming a pool and mobilizing these reserves for effective transfer from one bank to another in times of crisis. Member banks are privileged to rediscount eligible commercial paper with the regional bank, or, in other words, may sell to the Federal Reserve Bank of the district commercial paper which they have purchased and on which they wish to obtain cash.

This act unquestionably provided a desirable elasticity to the nation's bank-credit resources. "In the opinion of most students of the question, it has thereby secured a steadier and more consistently uniform proportionality between goods and services currently produced or rendered and the purchasing power available to the market."¹⁰ Moreover, since the system is not operated primarily to make profits, it should tend to grant credit more in terms of business welfare than would be possible under a system of more individualistic business banking.

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The United States Shipping Board was authorized by an Act of September 7, 1916. Fundamentally a war measure, the Board was designed as a part of the administrative machinery to promote the development of an American merchant marine and to regulate foreign and domestic shipping. Under the direction of this board and the Emergency Fleet Corporation, the tonnage of American vessels in foreign trade increased from 2,191,000 tons in 1916 to 16,324,000 gross tons on June 30, 1920. After the war, because of what seems to be the lack of any definite governmental policy, the Shipping Board has been gradually passing the whole job of promotion over to private enterprise. Whether the benefits derived from this promotive effort of the government outweighed or even balanced the enormous expenditures which were involved is a moot question. It is cited here merely as an example of promotive effort. Essentially the whole program was a war measure.

Tariff legislation was first enacted in this country in 1789 as a promotive measure. Changes and amendments in this legislation have been the cause of bitter word-battles and scathing polemics ever since. The supporters of protective-tariff legislation present, in the main, the "revenue" argument, the "infant industries" argument, the "war" argument, and the "wages" argument. Customs returns are large

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and easily collected. Infant industries must be assisted to develop to a point where they can compete with foreign competitors. A tariff hinders foreign trade and makes a country better prepared for war, because it is necessarily more nearly self-supporting. A tariff enables producers to keep prices up and consequently helps to make high wages possible. On the other hand, the opponents of protective-tariff legislation offer, in the main, the "balance of trade" argument, the "geographical specialization" argument, and the "equality" argument. Since exports and imports in the long run must be equal in value, the tariff is a limiting factor which will limit exports as well as imports. It is wise for nations to produce the things they are best fitted to produce and for them to exchange these things in foreign trade rather than to attempt to produce all things. The tariff benefits the manufacturer, but hurts other classes and is an act of special privilege.

Various tariff boards and commissions have functioned at one time or another in the interests of tariff revision by more "scientific" methods. The act of September 8, 1916, provided for a Tariff Commission of six members. Some of its powers and duties are as follows: to investigate matters relating to tariff administration; to study the fiscal and industrial effects of the operation of our tariff laws; to investigate

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tariff regulations with foreign countries; to study the conditions of competition in foreign trade; to summon witnesses and otherwise to assemble information. Under the Fordney-McCumber Act of 1922 the flexible-tariff idea was introduced, and the President was given power to raise or lower rates by an amount not exceeding 50 per cent. upon recommendation of the Tariff Commission.

Of all the promotive projects of our government, the question of tariff legislation is the one which arouses the most rabid partizan approval or disapproval. Our experiences with tariff legislation, however, are summarized in the following statement without partizan bias and with careful regard for the facts:

In general the tariff acts have been hastily and unscientifically drawn. With the exception of one or two instances it has been almost impossible to obtain a clear-cut decision from the electorate, because the tariff has been so entangled with other political issues. It has furthermore been impossible easily to determine at just what point, if at all, an industry ceased being "infant" and no longer needed protection. It is obvious likewise that in making tariffs the lobbies desiring protection were always stronger and more vocal than those opposed. Furthermore, the tariff commissions, however "scientific" they were supposed to be, somehow had a protectionist complexion under Republican administration and the opposite under Democratic. At

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the same time, it is apparent that the nation, as the years have passed, has become more favorable to a high tariff.¹¹

The most recent large-scale promotive undertaking by the government is the establishment of the Federal Farm Board with ample powers and adequate money to work out an effective program of farm relief. The board is created primarily to work out a strong marketing policy and to assist the cooperative associations in becoming self-supporting and self-directing. This board is in the process of formation at this writing, so that exactly what its specific program will be cannot be indicated here.

It is unnecessary to mention any more of our government's promotive efforts on behalf of business, but it should be said that our city, county, and State governments are engaged in such efforts as well as the Federal government. The roads, bridges, and canals constructed by the government are examples of these promotive projects. The business of commerce, industry, and agriculture is the life-blood of our nation. It is certainly the province of our local, State, and Federal governments to keep this blood in good condition.

The regulative efforts of the government are essentially affirmative in character. They specify modes of conduct which must be adhered to by specified parties in specified relationships with

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other parties. Prominent among the government's regulatory provisions are the Pure Food and Drugs legislation and the regulation of the common carriers engaged in interstate commerce.

Upton Sinclair's book *The Jungle* brought to the attention of the entire country the conditions existing in the packing houses. Commissions were appointed to investigate these and other industries in which foods and drugs were handled and packed. The reports of these commissions were little less than astounding. In one State alone ninety per cent. of the meat markets were discovered to be using chemical preservatives. Chipped beef was preserved with borates. Mushrooms were bleached by sulfates. Canned peas were put up in solutions containing copper salts. Butter was adulterated with margarine and preserved with formaldehyde. Over 150 patent preservatives were on the market and were guaranteed to keep meat, fish, and poultry fresh without ice. More "pure Vermont maple syrup" was sold than all of New England could produce. Patent-medicine "cure-alls" fed and flourished on the credulity of the ignorant. There appeared to be no limit "to the mendacity of the advertising, the viciousness of the formulæ, the baby-killing, the habit-forming, constitution-wrecking character" of the whole sweep of patent-medicine manufacture and distribution.¹² Soothing syrups contained opium. Cocain was

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an important ingredient in catarrhal powders.

Legislation to check the sale of adulterated foods and drugs was introduced in Congress as early as 1902, but was repeatedly shelved. It took almost four years of exposure and agitation before the Pure Food and Drugs Act finally became the Federal law of the land. The act forbids "false and misleading" statements on labels or on the doctrinal matter which surrounds the package. It provides that eleven drugs or their derivatives "shall be stated on the label if they form any part of the ingredients of the package." These drugs are: alcohol, morphine, opium, cocain, heroin, alpha-eucain, beta-eucain, chloroform, cannabis indica, chloral hydrate, acetanilid. Under the efficient administration of the Bureau of Chemistry of the Department of Agriculture the evils existing in the manufacture and preservation of foods and drugs have been largely reduced.

An exceedingly important regulative agency or commission was established in 1887 by the Interstate Commerce Act. The Interstate Commerce Commission was created to inquire into the business of common carriers, to require testimony and attendance of witnesses, and in general to regulate interstate transportation. Early decisions of the Supreme Court limited the power of the commission, but the Hepburn Act of 1902 and the Mann-Elkins Act of 1910 re-

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stored and extended its power. The commission may "determine and prescribe" just and reasonable maximum rates; it deals severely with discrimination, and it requires uniform methods of accounting. Its jurisdiction includes not only railroads, express and sleeping-car companies, and pipe lines, but telephone, telegraph, and cable companies. The word transportation is given a broad meaning and includes "all services in connection with the receipt, delivery, elevation, and transfer in transit, ventilation, refrigeration or icing, storage, and handling of property transported." The activities of the commission have been of inestimable value in establishing affirmative codes of conduct for the common carriers and in regulating the relations between these carriers and business enterprises on a basis of fair competition.

In addition to these two outstanding examples of governmental regulation, there are, of course, hundreds of other similar legislative provisions and regulatory agencies. Local and State laws also specify definite modes of business conduct. Child-labor laws, minimum-wage laws, workmen's compensation acts, industrial safety acts are only a few. State warehouse commissions and public utility commissions are governmental agencies charged with a regulatory purpose. The complete list is much too long to be reproduced here.

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Finally, it should be remembered that the government itself is engaged in conducting some of the nation's most productive activities. The government owns an enormous amount of property, employs about nine per cent. of all wage- and salary-earners in our nation, and pays about eight per cent. of the current income of individuals.¹³ Generally speaking, the productive services which the government assumes and performs are those services in which management for profit is thought impossible or incompatible with public welfare. They range from the management of the forests through a long list—the improvement of rivers and harbors, the reclamation of waste lands, the building of canals, the public defense and domestic order, the whole minting and monetary system, flood control, and the handling and distribution of the mails.

Broadly speaking, the purely restrictive efforts of the government intensify the conflict between social and private ends, for they protect the individual rights of liberty and property as set up in the Constitution. The promotive and regulative efforts of the government on the other hand tend to integrate the social and business aims, because they establish conditions which make it possible and necessary to make money by making goods.¹⁴ The extent to which the government will assume productive responsibilities through government ownership and opera-

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tion will undoubtedly depend upon the behavior of those business enterprises now conducting activities which are "affected with a public interest." So long as the public interest is well served under regulated private interest it is unlikely that the government will undertake any elaborate productive project which can be carried on by private capital. Abuse of the public interest alone brings about extensive and intensive regulation, and abuse alone will be responsible for any future expansion in the governmental ownership and operation of productive enterprises which are now being carried on by private business ownership and management.

XII

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THE typical business enterprise in our modern technology is rigorously scientific in its control of the manufacture of goods. The products of farming, logging and mining are seldom ready for consumption as they come from the basic producer. With such outstanding exceptions as fresh vegetables, fruits, nuts, eggs, and milk, almost every basic material must be changed in form before it is used. Vegetable and animal products, such as cotton, flax, wool, and hides have to be made into cloth, clothing, and shoes. Logs must be sawed, planed, cut, and joined together in various patterns. Oil must be cleaned and refined. Iron, copper, zinc, and lead rarely reach the "ultimate" consumer in the form of raw material. This process of changing the form of a raw material is called manufacturing. In an age of power-driven machinery, the technique of manufacturing is one of the most important of all business techniques. The direct influence of power and machinery, of course, has not been uniform throughout the whole spread of business activity. It has been of the greatest significance in manufacturing and transportation, and

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of the least significance in agriculture and in the handling of goods in trade.

According to the *Census of Manufactures* of the United States Bureau of the Census, some 290,105 manufacturing establishments were in operation in this country in 1919, employing a total of 9,096,000 wage-earners. These establishments represent some 358 different manufacturing industries. To list these varied types of activities would require many pages and would prove to be a tiresome enumeration. Moreover, our concern is with the problems and techniques of manufacturing control. Accordingly, we need a convenient but less detailed type of manufacturing classification.

From the point of view of the problem of control, manufacturing industries may be divided into three general types: the progressive or continuous-flow type, the synthetic or repetitive-process assembling type, and the non-repetitive process type. This classification, of course, is more useful than complete. Every manufacturing enterprise will not fall accurately into one of these classifications, because an individual enterprise may involve more than one type of process. Nevertheless, the technique of manufacturing control can best be understood by directing our attention to this classification.

The progressive or continuous-flow type of manufacture exists wherever the raw material

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which is brought into the plant is worked or processed in successive stages until it emerges as a finished product. This method of manufacture is perhaps the simplest of all. It is the only feasible method to use when the materials which are to be worked lose none of their essential elements in the fabricating and gain none of the essential elements of another product. The changes that take place are only changes in the chemical or physical properties of the raw material. Our paper-mills are good examples. Spruce logs are taken in at the genesis of the process, are stripped, cut, pulverized, bleached, rolled and recut, and finally emerge in the store-room as ton rolls of newsprint. Stamp-mills also furnish an illustration of this process. Ore is brought into the plant and passed through the rough-crushing rolls. Next, it is taken to the stamps and the concentrators, where the light particles of rock are removed. It then passes to the grinding pans, where it is reduced in fineness and is then sent on to the clean-up pans to settle. The pulverized pieces of rock ascend to the top and are removed. Finally, the refined ore is poured into retorts and cast into ingots. Other industries employing this type of manufacture use materials which are combined in the processing. The combining of clay and limestone in cement factories is an illustration. The outstanding characteristic of this type of manufacture is

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that the materials flow on steadily from one department to the next. There is no doubling back to the same department for retreatment. Each process room sees the material but once.

The second type of manufacturing process, the repetitive or synthetic, presents a different situation. In this process, varied parts are brought together and assembled into units which are turned out perhaps by the thousands. The same work is done again and again, over and over. The parts which are combined to form one unit may be purchased from other plants or manufactured in the factory. The Ford Motor-Car Company illustrates the process. Thousands of parts which are manufactured in the various specialized plants are brought to the assembly plant, where they are added together until a car is the result. There are numerous sub-assembly rooms in which the parts of the steering gear or the rear axle, for example, are put together. But the compound units from each of these subassembly rooms are added together in the main assembly room. Most industries engaged in manufacturing machines fit into this category. Their raw material consists of parts. Their work is the assembly of these parts into a lathe, a telephone, an electric fan, or whatever finished commodity they furnish to the market.

As the name indicates, the non-repetitive type of manufacturing is carried on in those indus-

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tries where the same article is rarely turned out more than once or a few times. Different work is done at different times. The amount of work, the nature of work, and the system of processing is varied. Manufacturing plants that turn out products only on order are examples. In the shipbuilding industry, this process obtains. Each ship is constructed on order and according to the specifications laid down by the purchasing company. One may be a 20,000-ton ship and another a 5,000-ton ship. One may be constructed for coastwise service and another for transoceanic trade. The amounts and kinds of raw material needed vary from ship to ship. Repair shops are also examples of this type of manufacturing. The machines and tools received for repair differ greatly. No two jobs may be of the same nature. Boiler factories and furnace factories are also in this category. Unlike the possible practise of the two preceding types, the non-repetitive process industry does not use a continuous and similar amount and kind of raw materials or parts. The amounts and kinds which may be purchased must be governed by the type of order secured.

While these are the principal types of manufacturing processes, it does not follow that every factory or every industry can be neatly and exclusively fitted into any one of these classifications. Many establishments carry on both the

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repetitive and non-repetitive processes. Some carry on the repetitive and the synthetic assembly processes. Many, of course, turn out a diversified group of products. Moreover, some plants are equipped mainly with the idea of versatility, with the end of flexibility in mind.

Now, the principal technical problems with which any manufacturer has to cope are five in number. They have to do with design, equipment, materials, operation, and control.

In the province of design, both the product and the plant which produces it are involved. The size and shape of the factory building, the type of machine construction, as well as the substance, size and shape of the finished product, must be carefully planned. Standard designs must be set up so far as is possible both for the unit product and for each element of the whole in the case of the assembled product.

The necessity for standardized machines and tools and for standardized machine and tool conditions should be obvious. Equipment must be accurately provided and carefully kept. The factory building, too, must be included in the term "equipment" as well as the power plant. Machines, tools, power plants, and factory buildings must not be allowed to deteriorate and must be controlled in the interests of efficiency and economy.

Materials, too, must also be controlled and

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standardized so far as possible as a corollary of standardization of the product and its parts. Whether the materials are manufactured in the plant or purchased from the outside, they must be available in the right quantities, in the right qualities, and at the right times.

Manufacturing operations are carried on by workers and machines, by workers and tools, and by workers and chemical agents. Much manual labor may be involved or little. Whatever the situation, the problem of controlling the worker as he acts in conjunction with the processing instrument is an important problem. Methods of work need to be standardized in the performance of a sequence of operations, but need not be pushed too far down into the performance of a detail operation.

The whole technique of design, equipment, materials, and operations has to be studied, planned, directed, and checked (watched). All the foregoing manufacturing elements must be controlled in the interest of efficient and economical production. This control may be accomplished in different ways in different industries and may necessarily stress one element more than another. Nevertheless, it must be effected.

The proper coordination of design, equipment, materials, operations, and control constitutes the work of the factory production department. All these factors must be so coordinated as to re-

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sult in the manufacture of the finished goods with a minimum expenditure of labor, power, and materials, and with the least possible wear and tear on the machines and tools.

The organization of the production department for the purpose of effecting such a co-ordination is exceedingly important. A system of relationships must be set up among the things to be done, the means of doing the things to be done, and the doing persons.¹ Of necessity, the types of organization used in the production departments of different industries will be somewhat varied. There appears to be little reason, however, for the amount of variation which sometimes exists. Ten factories of approximately the same size which are engaged in the manufacture of the same types of products should not require ten sharply-differentiated and individualistic types of organization. Ten such systems can hardly be of equal value.

The organization of the production department should be a matter of careful study and continuing experiment. After its initial set-up, changes may be necessary from time to time until maximum efficiency is reached. The forming of an organization is, in part, a process of analyzing purpose, means of achieving the purpose, and responsibilities to be assumed by persons in utilizing the means, in an effort to discover and delineate the system of relationships inherent in

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the enterprise.² It is, in part, a process of continued study, experiment, and test in an effort to improve the original discovery.

The oldest type of organization for manufacturing is the "military," "line," "fractional," or "numerical" type. This kind of organization is as old as the factory itself. Under such a system, workmen report to a companion worker called a foreman. The foremen report to the factory superintendent, who, in turn, reports to the general manager. When a certain task must be performed, the general manager issues orders to the superintendent, who calls in his foremen or personally repeats the order to each foreman, sometimes subdividing the work among different groups. The foremen then carry the orders to their respective groups of workers. This "military" or "line" type of organization provides an excellent system for the giving of orders and for the fixing of responsibility. However, it is not adapted to an economical specialization of labor. As business grows, factory superintendents and foremen fall short of the all-around knowledge, skill, and training which are necessary.

Hiring men, teaching them, settling disputes, repairing machinery, ordering material, planning the current work—these are a few of the duties that may require the foreman's attention, all at the same time, and as Sir Boyle

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Boche observed, "No man can be in two places at once, barrin' he's a bird."³

The pure "military" type of organization has no place for such experts as engineers, chemists, research workers, etc., and such experts become increasingly necessary. Consequently the "military" type is soon modified.

The functional type of organization is the outgrowth of the "scientific management" movement. While most types of organization are functional in their broad aspects, the term "functional organization" involves the distribution of tasks in such a way as to give each worker and supervisor as few distinct and separate duties as possible. Duties are assigned to those who are especially fitted to perform them. Instead of each worker being responsible to one foreman he may work under several foremen at the same time.⁴ Each functional foreman directs that portion of the worker's task which he is trained and adapted to direct. The Taylor system, for example, sets up eight functional foremen as follows: the route clerk, the instruction-card man, the gang boss, the speed boss, the inspector, the time-and-cost clerk, the repair boss, and the disciplinarian. These functionalized foremen report to the engineer, the superintendent, and the chemist, all of whom, in turn, report to the general manager. The advantages of the functional type of organization lie in the

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efficient methodology that can be developed and the maximum use of specialized knowledge. The disadvantages are a tendency to overspecialize, the difficulty of coordinating the many separate functions, and the difficulty of centering responsibilities and handling matters of discipline.⁵

The line-and-staff type of organization is a combination of what seem to be the best features of the line and the functional types. In this system of organization, authority flows from the top to the bottom as in the line type. Duties and responsibilities are definitely fixed so that discipline is insured.⁶ In addition to the regular line officers, however, there is a staff of specialized experts. These experts study and work out the problems relative to the performance of the activities with which they are concerned, no matter where these activities must take place in the business enterprise. The recommendations and directions of the staff officers are considered and adopted or rejected by the line officers, who carry the adopted recommendations and directions down to the worker. The staff or service officers, who are in charge of such divisions as power and maintenance, inspection, and production engineering, assist and support the line or operating division. Each staff expert works in his own specified field and does his part in relieving the line or operating officers so that they are free to devote all of their time and

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efforts to their particular function, the actual making of goods.⁷

Generally speaking, the line-and-staff type is the favored type of organization. It seems to offer the greatest possibilities and the best provision for planning, performance, service, and study. In the customary organization of the manufacturing department, the Director of Manufacturing heads up the Operating Division (Line), the Power and Plant Division (Staff), the Inspection Division (Staff), and the Production Engineering Division (Staff).

The Operating Division is in charge of a General Superintendent or Production Manager. It is concerned with the actual making or fabricating of the product. It will be divided into as many sectional units or "shops" as the work of the factory makes necessary. There may be a forge, a machine shop, a paint shop, an assembly room, and so on. A foreman is usually in charge of and responsible for the work of a shop or sectional unit.

The Power and Plant Division is usually in charge of the Works Engineer. This division is responsible for furnishing to the shops an adequate and constant supply of steam, electricity, gas, compressed air, and water. It also performs those services which may be necessary to maintain the machinery, equipment, building and grounds in such condition as will permit the

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plant to be operated at the highest practical point of efficiency.⁸ Machinery and equipment must be frequently inspected, repairs must be quickly and effectively made, and repair parts as well as tools to use in making repairs must be kept in stock.

The Inspection Division is usually in charge of the Chief Inspector. This division is responsible for the inspection of all materials and parts and of all work in process. It must see to it that materials and parts are up to standard and that the necessary accuracy of all operations on goods in process is maintained.

The Production Engineering Division is usually in charge of the Production Engineer. This division is responsible for planning and for study. It has charge of the production research, time-study work, motion study, standardization, and all efficiency investigations. It generally has charge of the various storerooms for raw material, work in process, finished parts, and tools. It designs, tests, drafts, and estimates. Finally, it schedules, dispatches, issues work orders and move tickets, and keeps the production records.

The organization of the manufacturing department is used by management in the interests of efficient, systematic, positive, and co-ordinated application of the available effort. The solution of the whole problem of production control is neither easy nor simple. Consequently.

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management finds it necessary to develop and use certain additional methods or devices, ranging from the use of a "differential rate" to the use of a time-clock.

These special control-devices which are used by management throughout the organization of the manufacturing department readily fall into two groups. They are commonly listed as: communicating aids, and measuring aids.

In the first group are such devices as internal telephone systems, instruction cards, move tickets, and so on. The purpose of these devices is to keep the management in communication with the workers. By means of them the workers learn the wishes of the management.

In the second group are the general accounting records, time studies, motion studies, tests of raw materials and finished production, inspection reports, cost accounting, and budgeting. The purpose of these devices is to check and test the accomplishments of the department's operation and thereby to provide a factual basis of control. Of all these measuring devices, cost accounting and budgeting are perhaps the most important. They should be discussed in brief.

The total costs in any business enterprise are made up of two items, the prime or direct or variable costs, and the supplementary or indirect or overhead or constant costs. One writer states the situation as follows:

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The production cost is made up of direct costs plus the indirect costs. In addition to this production cost there is expense connected with selling and general administration, which is, of course, one kind of overhead cost. The production cost plus the selling and general administrative cost gives the total cost of making the goods. The difference between this total cost and the selling price is the profit.⁹

In the factory, the direct costs are those elements of cost which, entering into and forming a part of a product, can be charged directly to the product. In a shoe factory, for instance, the direct costs are the costs of leather, thread, cotton lining, nails, and the wages of the workmen who cut, sew, and nail. The first group is called the direct material cost and the second the direct labor cost. Obviously, these are variable costs. Their total is the result of the number of pairs of shoes which are manufactured, because each pair requires an expense for materials and for wages.

The indirect costs are those costs which cannot be directly charged to the product. Like the direct costs, they are divided into material and labor groups. Indirect material costs are charges made for materials which are necessarily used in the manufacturing process but which do not make up a component element of the finished product. Oil, supplies, scrap materials, and small tools are examples. The indirect labor costs are

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the wages paid for supervision or foremanship, superintendence, repair workers, cleaners, and so on. But there is still another group of indirect costs, usually handled under the caption of "Indirect Expenses." Rent, insurance, taxes, interest, depreciation, maintenance, power, light, heat, over, short, and damage, and so on, are examples of indirect costs. It is not difficult to see that a very large element of indirect costs must be present in every factory where machines are largely used. Nor is it hard to understand that these indirect costs do not change greatly when changes occur in the volume of business. They are often called constant costs.¹⁰

The advantages of keeping a cost-record system are many. It prevents uncalled-for expenses or "leaks." As soon as costs are incurred, they show themselves in the records. They locate themselves, and wiping them out in future operations is simplified. When the market price of a commodity sharply declines, management knows from its cost figures whether or not it can continue to manufacture that particular product. The records show up the profitable and unprofitable items in the product line. They also gage the efficiency of superintendence and supervision. Thus the prime object of cost accounting is "to provide data which will facilitate control, data which will bring out weaknesses and failure in operation and give the executive

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the information he needs in planning for the reductions of costs and an increase in operating efficiency." ¹¹

Budgets are also extremely important measuring aids, which management may use in controlling manufacture. In essence, budgets are merely devices of economic foresight, estimates of income and outgo for a coming period based upon records of past experience, present business conditions, and probable future trends.

The expenses of the factory are met by the money which is obtained from the sale of the product. Consequently, the sales budget is the starting point in any program of budgetary control. The sales department draws up its estimate of the amounts, qualities, and types of product that it can sell during the coming period. This budget may then be examined in the light of the factory capacity. After past sales records, present business conditions, probable future trends, and plant capacity are carefully considered, the sales requirements may be decided upon.

With the sales requirements as a guide, management next proceeds to consider the matter of manufacture from the point of view of having the goods ready for delivery when they are sold. It is necessary to turn out a certain number of finished goods each day. Moreover, reserves of finished goods must be made available in the

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storerooms to guard against the unevenness of sales from day to day. To keep the factory producing from day to day and to insure ample reserves in the storeroom, the production department plans a schedule which is commonly known as the "finished goods schedule." Next, the materials budget is drawn up. The types and amounts of each item of raw material needed to produce the specified number of finished goods and the time when these items will be needed are included in this schedule. These estimates of materials required are handed over to the purchasing department so that it may consider inventories on hand and resulting needs in terms of market prices and trends of market prices. The labor budget must then be prepared and careful estimates must be made of the number and kind of workers required to produce the quantity of goods called for in the finished goods schedule. Now, labor cannot be piled up in storerooms in reserve amounts nor can it be purchased on a moment's notice. Consequently, the personnel group will necessarily consider the cost of hiring and training, the practicability of securing additional amounts of labor at definite times, and the possibilities of shifting labor from slack departments to busy ones. The overhead or indirect costs must also be budgeted. Supplies, tools, light, heat, power, rent, insurance, and so on, have to be carefully estimated. Finally, the

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expense and financial budgets may be drawn up. Just as the production budgets depend upon the sales budgets, so does the financial budget depend upon all the others. All the budgets are interdependent.

Obviously, a budget is a tool and is valueless unless it is effectively used. In itself, a budget does not control. It is merely a measuring tool which management may use. Generally speaking, an effective use depends upon the following essentials: the careful statement of plans of each department for a given budget period, with estimates of probable accomplishments and expenditures; a coordination of department estimates in a well-balanced program under which the company can operate as a unit, and a check of actual performance against estimates to see whether or not each department is living up to its estimated accomplishments and within its estimated expenditures. When these essentials are carried out much can be accomplished in the way of executive control.

Through its organization of the manufacturing department and by its use of communicating and measuring aids, management attacks the problem of production control. Naturally, the specific problems of control which are most important will vary from industry to industry and from factory to factory. Emphasis will need to be placed on particular phases of control accord-

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ing to the nature of the factory and its work. If we refer back to the three general types of manufacturing which were listed at the outset of this chapter, we shall be able to get something of a picture of the varying phases of control which are important.

In the continuous-flow type of manufacturing establishment, the control of raw materials is exceedingly vital and important. The question of whether or not the raw material which is used is as good or as cheap as it should be is an eternal question. On the side of technical processing, the question of whether or not a better article can be fabricated at the same cost is always present. The problem has its answer in more or less continual study of machines, processes, and workers. Then, too, there is the important problem of controlling by-products. If wastes can be made into by-products and if markets can be found for these by-products, total costs can be considerably reduced by the profits from the sale of the by-products.

The continuous-flow industries furnish many examples of these problems of control. In the manufacture of paint, turpentine was an important raw material. The steady rise in the price of turpentine made its use almost prohibitive in terms of direct material costs. Consequently, a substitute was found which was cheaper and which served its raw-material purpose as well.

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In the linen industry, the process of fabricating flax was so slow and expensive that linens could not be sold at prices which made possible their frequent use. Here, the process was improved, the price of the finished product reduced, and the market expanded. The oil industry presents one of the most notable examples of the profitable utilization of what at one time were regarded as waste elements. Uses have been discovered for almost every element contained in crude oil.

In the repetitive type of manufacturing, these same problems of control with respect to raw materials, processes, and waste products also are present in important degree. Other problems, however, are also vital. Matters of layout, planning, and dispatching are of considerable concern in this type of industry because of their influence upon costs. The plant must be so laid out and the equipment so placed that the raw materials can be moved without duplication of effort. Any expansion of production with its coincident installation of new machines will recreate this problem again and again. Materials must be routed to appear in the right places at the right times. Internal transportation systems must be scientifically devised and communication aids must be freely used.

The non-repetitive type of manufacturing also has its special problems of control. In this type

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of industry the control of workmen, foremen, and superintendents is especially important. In the former type, the repetitive process industry, the amount of manual labor can be minimized. Machines and equipment perform most of the work, and since their processes are the same from day to day, the problem of control is not a baffling one. But in the non-repetitive industry the same work is seldom repeated from day to day. Here it is impossible to transfer the skill of the worker to the machine to the same extent. Hence the hiring, training, and supervising of men of initiative, judgment, and skill constitute an important problem of control.

Such is the range of special problems of control in the three most important types of manufacturing industry.

One more group of technical factors remains to be considered, the so-called physical elements of manufacture. These elements have been touched upon in the preceding discussion, but they need to be grouped and then considered as individual factors. The physical elements of manufacture are: plant location, layout, building, heating and ventilation, lighting, fire protection, and power. Frequently, manufacturers give too much attention to these physical factors to the detriment of organization and the development of the aids to effective production control. Certainly, any such emphasis is misplaced, for

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these elements are merely the factors which facilitate the manufacture of the finished product. They are of great importance, of course, but they should not be glorified out of proportion to other factors.

Very often the geographical location of a plant has an important bearing upon the probable success of the business enterprise of which the plant itself forms a part. Personal preferences or whims have no place in the determination of plant locations. If factories are to be operated in the interests of stockholders, their location must be decided upon after careful consideration of economic factors.

One of these economic factors is the proximity of possible locations to the sources of raw materials. If a plant can be located at or near the point of production of the raw materials which will be used, great savings in transportation costs can be effected. For this reason, paper mills have often been located close to the forests or on rivers along the currents of which fallen logs can be floated. Likewise, blast furnaces are often located near the iron-ore region.

Just as proximity to the source of raw materials may represent transportation savings, so, too, does the proximity of possible locations to the markets. In and about most of our large cities are many manufacturing plants whose locations have been determined by the factor of

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their nearness to the markets. In Detroit, for example, there are many plants which manufacture automobile accessories. They have located there primarily because the Detroit automobile factories buy all their accessory products. They believe that it is more economical to transport raw materials and parts than to transport finished products, in their cases, at least.

Another factor is proximity to power. In Norway, for instance, the aluminum factories are located far from their ores and their markets. But they are established on flowing streams which furnish them with power. Similarly, many steel and iron mills are located in the coal regions because it appears to be more economical to transport hundreds of tons of ore than to transport hundreds or thousands of tons of coal. Ore has a greater inherent value in relation to its bulk. In this connection, it should be said that the development of electricity has greatly facilitated the transmission of power. In the future, therefore, this factor may not assume so much importance in choosing a location for the factory.

Manufacturing establishments cannot be operated without workers, so that the factor of proximity to labor supply may be significant. In some instances locations which are near raw-material regions or power sites cannot be selected because of an insufficient labor supply.

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Lack of an improved community which can satisfy the ordinary human wants may mean great difficulty in holding employees to their jobs. Any factory that needs a fluctuating supply of labor must give this factor careful weighting in choosing a location.

The question of location should be solved by choosing the place which will provide the widest margin between total costs and total revenues for the particular industry. Every factor must be considered. Locations should not be chosen to save on one factor alone. There is too much opportunity to lose on the others. All must be evaluated and weighted. Moreover, even after a location has been chosen and used, periodic studies of the subject may be the part of business acumen, particularly when the established location is in a growing community.

The second physical element of manufacture is layout, the arrangement and set-up of the equipment and the buildings. Layout is determined very largely by the kind and amount of product to be manufactured, the processes required in the manufacture of such products, and the movement of material from one process and operation to another. Other factors, however, are also important and must be taken into account. Such matters as the special requirements of certain departments, the number of machines and their grouping, the auxiliary equipment and

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its relative position to the machine it serves, the space required for aisles and temporary storage, the space needed for service centers, space for storeroom and finished goods awaiting shipment, the necessity for railroad sidings, any restrictions of the plant site, and provision for future expansion.

The average steel plant furnishes a good illustration of effective layout. Blast furnaces are constructed at short distances from railroad sidings or river docks. The intermediate space is used for the storage of ore. Next to the blast furnaces are placed the open-hearth furnaces. The pig-iron can easily be transported from the blast furnaces to the open-hearth furnaces, from which it emerges as steel. Close by the hearth furnaces are the soaking pits. Just beyond, at equal distances, are the various mill buildings through which the steel is passed to be processed. One mill may turn out plates, another may make axles, another may manufacture rails, and so on.

The test of layout is usefulness and simplicity. Complicated layouts are costly. Simplicity will bring with it directness of effort, reduction of cost, and ease of operation and control.

The factory buildings are also important physical factors which are closely intertwined with matters of layout. Building depends upon layout and layout depends upon building. They are not totally unrelated subjects that can be disposed

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of irrespective of one another. In general, it is wise to plan the entire layout first and then consider the construction of the buildings around the machines and equipment, as it were. Naturally, this procedure cannot be followed when a factory building is already on hand and must be used. It is impossible where and when machinery has to be accommodated to the size, shape, and general structure of an old building. Theoretically, however, the building factor should be considered little more than as housing for the necessary layout of machinery and equipment.

Factory buildings may be of many types, single-story, multi-story, saw-tooth-roof buildings, single-story with mezzanine floors in side bays, round, oblong, square, winged, and so on. Each type has its advantages for certain kinds of processing. When these advantages are evaluated in connection with cost of construction and cost of upkeep, decisions as to construction may be made.

A single-story building, for example, is desirable where heavy materials and machinery are used. Heavy floor loads in a multi-story type of building necessitate costly construction. Moreover, the handling of heavy materials from floor to floor involves expensive equipment and labor. Thus, plants which manufacture mining machinery, steam engines, and the like, are almost

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always single-story plants. Multi-story buildings are practical where light materials and machinery can be used, and are economical in cities where land values are high. In a hat-making factory, for instance, the raw materials may be sent to the top floor in elevators, and then routed down after being processed to some extent on each floor, until the ground floor is reached and a finished product is ready for shipment. Again, in those cases in which a number of products are made, one floor may be set aside for the fabrication of one product. If the finished product is the result of assembling different materials, each or some of which have to be processed, a single-story building constructed in wing formation may be desirable. The finished product may make use of processed brass, wood, steel, glass, and rubber. One wing may be set aside for the processing of each material and the finished product of each wing may be turned out at the end of the building which joins the main structure or assembly floor.

The actual materials of construction used in erecting factory buildings depend in part upon costs of erection, costs of upkeep, fire hazards, legal requirements of particular districts, and so on. "Reinforced concrete and steel-frame construction are rapidly supplanting the old wood and brick mill-construction types, as they have a relatively low cost of construction, can be

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made fireproof, and permit of the greater part of the wall space being given over to window space." ¹² Certainly, due consideration must be given to various possibilities of construction, for the cost of the plant is a large item in overhead charges. The lack of sufficient analysis of the relation between the plant and subsequent profits to be made may result in the erection of an unnecessarily excellent plant which will bring about such prohibitive operating burdens as to wipe out all profits.

The factor of heating and ventilation is also important, altho it has been so recognized only within the last generation. In the early days of the factory system, employees worked in excessive heat, and breathed air poisoned by fumes, gases, and dusts. When it finally became apparent that such conditions lowered the efficiency of the workers and even shortened their working life, this problem began to be attacked with vigor.

Heating systems are either direct or indirect. The direct system is the most common. Steam is utilized and the pipes and radiators are placed along the outside walls. Where the factory generates steam power, steam for heating may be taken from the power boilers and reduced to the pressure required in the heating system, or exhaust steam from the steam engine or turbine may be utilized. The disadvantages of the direct

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system lie in the fact that the hot air rises, cools rapidly as it comes in contact with the walls and windows, and "finally rests as a layer of warm air next to the ceiling." Consequently, the floors may be cold while the air is hot up under the ceiling or roof. Furthermore, valuable space near the windows must be taken up with pipes and radiators. This space may be desirable as work space for operations which require natural light. The indirect system of heating was designed to eliminate these disadvantages. In this system an electrically-driven or engine-driven fan forces steam or engine exhaust through heating units and distributes it through ducts to the rooms which are to be heated, the outlets being located at desired points.

An elaboration of this indirect or blower system makes it possible to control the humidity, temperature, and ventilation. Special blower installations can provide for dust collection, for removing hot gases from heat-treating departments or smoke from enameling ovens, for absorbing vapors in packing houses, and so on. Effective temperature control and air-conditioning prevents the spread of disease and vitalizes the worker. Headaches, bleary eyes, and depression disappear, so that the worker becomes more efficient and willing. Consequently, this whole subject of heating and ventilation is worth a deal of careful attention.

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While effective heating and ventilating systems assist in keeping up the worker's efficiency, they are not the only important factors which are necessary to the same purpose. A provision for adequate lighting, natural and artificial, must be planned and executed. Modern factory construction has been experimenting for some time with ways and means of providing large amounts of natural light. Factory walls are now made of glass, in many instances, instead of brick or concrete. Very often the window panes are of fused quartz, so that the beneficial ultra-violet rays of the sun may penetrate into the factory. Processes that require an unusual amount of natural light are housed in single-story buildings with saw-tooth roofs of glass, or on the top floors of multi-story buildings where glass skylights can be used.

Because the intensity of natural light varies with the seasons, the weather, and the time of day, daylight lighting must be supplemented by artificial lighting. Adequate amounts of light must be provided, and imperfect diffusion with excessive brightness and contrasting shadows must be avoided. Again, different degrees of artificial illumination must be furnished to special departments and special process centers. In a leather manufacturing plant, for example, the finishing department will require twice the intensity of illumination that is necessary in the

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tanning department. Artificial lighting systems, of course, have been improved immeasurably during the past few years, and technical advice is available at small cost or no cost at all in the lighting bureaus of the Power and Light Public Utility Companies. The installation of a system that is technically sound, that coordinates with the use of reflecting colors on walls and ceilings, and that involves systematic cleaning of bulbs, walls, and windows, will solve this problem.

Another important physical factor which needs attention is the problem of fire hazards. Most city or suburban locations will be governed by city or State fire legislation, but even where such restrictions do not obtain, it is very much worth while for management to give this matter plenty of attention. A fire-proof building is often little more expensive than a non-fire-proof building. In fact, the difference in fire insurance rates may offset the higher costs in a very few years. Fire doors should be installed to enable small blazes to be shut off and stamped out before the sweep of the flames spreads over large areas. Plenty of exits should be provided and conveniently located for the safety of employees in case of a sudden explosion and resultant fire. Hoses, chemical extinguishers, and other forms of fire-fighting apparatus should be distributed throughout the plant and periodically inspected. Sprinkler systems may be installed on the ceil-

ings. Fire drills should be frequent and should involve specific tasks and responsibilities on the part of the workers. A detailed fire prevention program will largely eliminate the possibilities of catastrophe and temporary shut-downs of the whole plant or of a particular department.

Power is the final important physical factor. From the point of view of mechanics it is vitally important. The more a factory is able to get away from manual labor by the substitution of machine work, the more vital the matter of power becomes. All sorts of problems are involved in the provision of adequate and economical power. First, there is the question of type of power. Water power may be used as the direct power or as a component element in hydro-electric generation. Steam which is produced by coal or by fuel oil or gas boilers may be decided upon. Internal-combustion gasoline engines may be satisfactory for some processes. Purchased electric power may be the solution. In making a decision here, management needs to remember that the power needs of the factory are seldom limited to the power required to operate the heavy-duty machines in the plant's production centers. There are many additional power needs, such as needs for heating and ventilating, lighting, the operation of varied types of ovens and furnaces, portable drills, pneumatic drills, elevators, cranes, dust collectors, and so on. Again,

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there is the question of whether power should be purchased or generated within the establishment or whether some middle course should be followed. If a generating plant is set up, all the problems of maintenance and continuity of operation must be assumed.

Such, in brief survey, are the physical problems of manufacturing. Taken together with the necessity for coordinating and controlling design, equipment, materials, and operations by means of an effective organization of the production department and a liberal use of communicating and measuring devices, they have resulted in elaborate techniques which are rigorously applied. Our country's strength lies very largely in the expertness of its manufacturing. The magnificent productivity of our modern tools has made us phenomenally rich. But unless we can still further improve our manufacturing methods we may not maintain our leadership. Where progress is expected, pause will not suffice. We must go on!

XIII

MARKETING

THE central fact of modern business is that nearly all commodities, rights, and services are produced for sale in a market. This is true of minerals dug out of the ground, of crops grown in it, of articles manufactured upon it, and of the services conceived and performed by man. So far as the business of manufacture is concerned, to bring raw materials from the four corners of the earth and produce the finished goods is only part of the job. The product must eventually reach the consumer or production will be obliged to stop. Because of the tendency toward large-scale manufacturing and toward the geographical specialization of manufacturing, a wide gap in time and space has been created between the manufacturer and the "ultimate" consumer.

Our earlier survey of modern business has shown us that the three successive steps in economical development have been: producing for one's own needs, producing for direct exchange with one's neighbors, and producing for the general market. Neither of the earlier steps has altogether disappeared. But the great bulk of modern production is for the general market.

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It is only on very, very rare occasions that the skilled craftsman or even the machine tender acts as salesman. Most manufacturing workers make or help to make goods which others will have to sell to unknown customers who may be living in another continent. Modern business has developed rapidly away from the old order of direct sale. In the stock of a tiny retail store there can be found goods from practically every State in the Union and from many foreign lands as well. The marketing function has become greatly specialized and demands the services of men of the highest grades of business ability. Marketing is no longer a butterwoman's job.

An extremely elaborate system has developed for the purpose of bridging the gap of space and time between the farm and the factory and the thousands of households whose needs and wants the farm and the factory attempt to supply. In order to understand the marketing problem it is necessary, first of all, to resolve it into its component parts or activities. These activities are many and complex. They are necessary in order to reach the consumer with goods where they are wanted, when they are wanted and in the form they are wanted. In making a purchase, the consumer must decide upon the type of goods, the particular brand, grade or unit to be purchased, and the particular vendor to be patronized.¹ In this whole process the consumer

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is influenced by the extent to which sellers have carried out their responsibilities in the marketing of goods. These responsibilities or activities are called the marketing functions. They include assembling or purchasing, distributing or selling, storing, grading, traffic control, risk-bearing, and financing. Broadly viewed, of course, marketing may be resolved into two complementary activities: assembling and distributing. These are the fundamental activities whether the producer and consumer deal directly or through middlemen. As Alfred Marshall points out, "the chief functions of middlemen are those of studying the wants of consumers and the resources of producers and bringing the two into connection."² In effecting this connection, however, the middleman must perform the other related and auxiliary functions listed above.

Three types of purchasing or assembling activities are important in marketing. There is first the assembly of like goods for the purpose of obtaining a sufficient quantity of goods under one control for economical operation. This is the type of assembly which interests the car-lot shipper, the local grain elevator, the cotton broker, the grain broker, and so on. Next there is the assembly which is performed for the immediate purpose of obtaining raw materials, fabricating goods, accessory goods, and installation equipment in the amounts, of the kind, and at the

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price to make economical manufacturing possible. This is the type of assembly in which the purchasing agent of the manufacturer is engaged. Finally there is assembly for the purpose of obtaining a sufficient variety and amount of goods to meet the convenience of buyers and to make economical operation possible. This, in turn, is the province of the purchasing agent for the jobber or wholesaler of consumers' goods and of the retailer. In all types the efficient performance of this function depends upon a thorough knowledge of market supply, market demand, market prices, and sources of production; an economical and effective methodology for executing and following up orders: and a continuous check of stocks on hand.

Selling or demand-creation activities in some form are involved in the marketing of every commodity. Sales are made on three bases: by inspection, by sample, and by description. Of the three, sales made on the basis of description are the least costly. But not all products lend themselves to sale by description. It may be impossible to sell a carload of potatoes by description or even by sample, while it may be perfectly possible to sell a Hamilton watch by description alone. Much depends upon another function, that of grading, so far as possible bases of sale are concerned. The two principal sales methods are advertising and personal salesmanship.

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Either may be used alone, but both are generally used in some carefully-planned combination. The steps involved in demand creation and making a sale are: advising the buyer as to kind and quality of goods, and where they can be secured, creating an effective desire, securing an agreement as to price and as to terms.

There is almost always a "lag" between production and consumption which makes the activity of storage highly essential.³ Goods must be stored until consumers are ready to use them, largely because the consumption of most products is fairly even and continuous while production is often intermittent.⁴

In general, there is need for three kinds of storage. Common, special, and cold. Common warehouses provide storage for non-perishables and need to be built simply to keep the product dry and to keep it from being wasted. Special warehouses provide storage for semi-perishables and may be equipped with air-circulating and temperature-controlling devices. Cold-storage warehouses provide for perishables like green vegetables, butter, eggs, meats, and so on, and are equipped to provide temperatures at or below freezing.

Standardization involves the adoption of definite rules as guides for the process of producing or sorting commodities into uniform groups.⁵ These standards or rules may be based upon a

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variety of factors such as size, shape, strength, chemical content, flavor, moisture, method of packing, etc. The actual dividing or sorting in accordance with these standards or rules is grading.⁶ The standards or rules which are used in grading may be fixed by public authority or by private initiative. Common or public standards are usually established and promulgated by the State or Federal Governments. They tend to do away with distinctiveness as regards the output of any one producer, for they frequently result in the mixing of goods of similar type and grade so that the identity of individual lots is lost. They make it possible to sell goods by description (grade) rather than by sample or inspection. Private standards are used to make the units of a product uniform, to provide easy identification, and to imply distinctiveness when compared with competing products. Private standards are represented by brands or trademarks which are made known to the market through advertising and personal salesmanship.⁷

Even in the case of the simplest marketing mechanism, the transportation function is involved and must be performed either by the buyer or seller. Transportation or traffic control includes a variety of subfunctions such as proper packing and loading, the selection of favorable rates and routes, an effective consideration and use of terminal facilities, and the study and

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control of trucking, draying, or delivery systems. This function is often so costly as to limit the geographical bounds within which the product can be marketed. The cost of performing the assembly haul, largely carried on by wagon and motor truck—the intermediate haul, accomplished by the railroads and steamships, and the final haul by wagon and truck—has a vital effect on the problem of reaching the consumer.

At all stages of the marketing process there are certain risks which must be assumed by the seller, buyer, middleman, or risk-bearing specialist. In general, these risks are of three types: definite risks, indefinite risks, and price risks. Definite risks are the risks of physical losses and consequent money losses, through fire, flood, sprinkler leakage, tornado, hail, theft, and so on. Most of these risks can be passed over to the professional risk takers, the insurance companies. However, the insurance premiums which must be paid add to the cost of doing business, and the indemnities paid over by the insurer seldom compensate completely for the losses sustained. Indefinite risks are the risks of losses caused by deterioration, style changes, and the like. These must be borne by the owner of the goods and can be minimized only by the exercise of good business judgment in buying and selling. Price risks are similar. Losses may be sustained because of changes in market prices.

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These losses must be borne by the owner of the goods. They cannot be passed on to others except through hedging, which is possible in organized commodity exchanges where future trading is permitted.⁸

Financing, too, is a function which is fundamental to the whole process. Goods are produced or manufactured, stored, and transported on the assumption that they will be purchased and paid for in money. On this assumption credits may be secured during the period of transportation and while they are in store.⁹ The task of securing these credits is an important function of the producer, or manufacturer, or middleman. Practically every series of ownership-transfers necessitates financing, and financing quite naturally increases in importance with the length of time elapsing between production and consumption.

These, then, are the chief marketing functions. They are performed by the producer or manufacturer and by the middleman. Accordingly, the next question which presents itself is with respect to who and what are middlemen.

Middlemen are individuals, firms, or corporations that stand between prime producers and ultimate consumers and that specialize in the transfer of title to goods and in the performance of other essential marketing services. These individuals, firms, or corporations are in business for themselves and attempt to conduct their

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enterprises in such a way as to make a profit for the risks they assume in addition to being paid for the costs of their services. Salesmen are not middlemen. They are excluded definitively because they are not in business for themselves and, consequently, do not assume the risks of an entrepreneur, and do not receive any profit from their sales as such. Hence, a manufacturer who sells his products exclusively through a force of salesmen which calls upon ultimate consumers from door to door, is not selling through middlemen.

All middlemen may be classified upon the basis of their relationship to the transfer of title to goods. In fact, the relationship of middlemen to the ownership of goods and to the transfer of title to goods is one of the most logical and useful factors in defining the position of any group of middlemen, both from a legal and from an economic point of view. On this basis, middlemen are classified as merchants and as functional middlemen.

Those middlemen who buy goods outright, and thus take title to them are called merchants. This class of middlemen generally performs all or most of the marketing functions. Wholesale receivers, jobbers, and retailers are the most common members of the merchant class of middlemen.

Those middlemen who assist directly in bring-

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ing about a transfer of title, but who do not themselves take title to goods, are called functional middlemen. This class of middlemen generally specializes in the performance of a limited number of the marketing functions, one of which has reference to the transfer of title through assembling or (and) selling. Selling agents, brokers, and commission men are the most common members of the functional class of middlemen. On the part of some writers, there is a tendency to include in the classification of functional middlemen other individuals, firms, and corporations which specialize in the performance of a part or all of the work involved in some one type of market service. Such agencies as railroads, inspectors, graders, banks, cold-storage plants, public warehouses, and insurance companies, by acting in some specialized capacity do facilitate certain marketing activities for the producer, the middleman, and the consumer. They are not *bona fide* middlemen, however, and they should not be classified even in the functional group, for they render no direct assistance in the transfer of title.

These two groups of middlemen are concerned with carrying out marketing services in connection with various types of vendible commodities. Naturally, the variety and complexity of goods in this day and age of power-driven producing machinery is perfectly astounding. However,

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vendible commodities can be roughly classified, at least. The principal class groups may be listed as follows: agricultural goods, raw material goods, technical goods, services and rights, and consumers' manufactured goods.

The farm produces a large portion of the world's supply of vendible commodities. Wheat, cotton, barley, oats, rice, flax, rye, corn, tobacco, and fruits and vegetables are typical primary farm products. Livestock and dairy products are typical secondary farm products. Some of these products, like fruits, vegetables, milk, cream, eggs, and so on, are ready for consumption when they leave the farm. Others, like the grains, livestock, and textile fibers, are the raw materials of industry and must pass through one or more manufacturing processes before they are ready for consumption.

The second group or classification of products, then, has reference to raw materials other than farm products. The extractive products such as coal, iron ore, zinc, copper, and so on, belong in this class. Here, too, some products, such as coal, go directly to the household for consumption, while iron ore, copper, and zinc must be processed. Even in the case of coal, a very large tonnage becomes raw material for industry and is consumed in the productive process.¹⁰ In this second group belong fabricating goods as well. These are goods which have already been proc-

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essed to some extent but which are still considered raw materials and must be fabricated still further before they are consumed. Sheet iron, structural steel, hides, cotton cloth, and cut lumber are illustrative of fabricating goods.

Technical goods are goods which are used in manufacturing but which are beyond the raw material form and do not enter the finished product in its marketed form.¹¹ These goods are purchased for purely utilitarian purposes, for definite uses in manufacturing. They include such accessory goods as belting, tools, office supplies, and such installation goods as factory boilers, heavy cranes, textile machinery, and so on. They are called technical goods because technological considerations of design, quality, and performance are the major determinants in their purchase and consequently in their manufacture.

The next group of vendible commodities is composed of the "intangibles," services and rights. The services which fall into this group may be personal and technical advice or actual and personal execution of a desired activity. They may be the professional services of physician, surgeon, dentist, clergyman, lawyer, engineer, accountant, and so on. They may be the skilled labor service of the plumber and the carpenter. They may be the semi-professional services of the advertising agency or the collec-

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tion agency. They may be non-professional services of the public utility. They may be storage, transportation, or communication. The rights may be bank credit, securities, or insurance. Obviously, this class of "intangibles" is exceedingly varied in the nature of its component elements.

Consumers' manufactured goods are those fabricated products which are sold to the "ultimate" consumer, in terms of an individual or household. They may be classified on the basis of the characteristic purchasing behavior of the consumer. Thus, we have convenience goods, shopping goods, and specialties. Convenience goods are goods of small unit price in the purchase of which the consumer wishes to be put to a minimum of effort. Staple groceries, tobaccos, drugs, and so on, are typical convenience goods. Shopping goods contrast with convenience goods in that in their purchase the consumer desires to compare prices, qualities, and styles. Gingham cloth, chinaware, yard goods, clothing, jewelry, and so on, are typical shopping goods. Specialty goods are those which have some particular attraction for the consumer other than price alone. Their purchase is important and infrequent enough to induce the purchaser to visit a distant retail store, if necessary.¹² A Hickey-Freeman suit, a Dunhill pipe, a Mark Cross brief case, or an Electrolux Refrigerator are

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examples of products which may be specialty goods so far as an individual consumer is concerned.

Now, there are certain definite steps in scientific marketing procedure which may be utilized by the producer or manufacturer and by the middleman. These steps are directly pertinent to the performance of the function of selling, altho they may involve the other auxiliary functions as well. Naturally, the possibilities of using these steps in scientific marketing procedure will vary somewhat from product group to product group. In some cases the individual producer or manufacturer and the individual middleman may be highly limited in their utilization because of the nature of the product which he may be engaged in handling. These steps in scientific marketing procedure are as follows: market analysis, market forecasting, the formulation of definite product policies, price policies, distribution policies, consumer or dealer policies, the effective and economical direction and control of personal salesmanship, and the effective and economical direction and control of advertising.

In the marketing of all products, the marketing functions remain practically the same with the exception of the selling function, altho different functionaries are common to different product groups. The use of the above steps in scientific marketing procedure also varies in in-

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tensity and extensity among the several product groups. Accordingly, a few words of description concerning the principal marketing problems which are typical of these product groups, the middlemen who perform the functions, and the possibilities of utilizing the scientific steps in selling, will be helpful.

The marketing of agricultural goods is complicated by the following factors: agricultural products are produced on a small scale by a very large number of producers, agricultural production is very largely seasonal in character, a large portion of farm production is perishable, agricultural production varies greatly in quality and quantity from season to season. As a result of these factors the functions of assembling, traffic control, grading, and storing are exceedingly important. Since the points of production and consumption are widely separated, agricultural products pass through various types of markets. These markets are usually classified as: local growers' markets (at country points), primary wholesale markets (at central concentration points), terminal markets or secondary wholesale markets (at central distribution points), and retail markets (at points of consumption). In the local growers' markets are found the following types of middlemen: local buyers, car-lot shippers, country-store buyers and shippers, traveling buyers, traveling brok-

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ers, and cooperative shippers. In the primary wholesale markets are the brokers, commission men, auction company, jobbers, car-lot wholesalers, and cooperative selling agents. In general these same middlemen are typical of the terminal or secondary wholesale markets. In the retail market are the specialty grocery, meat, dairy product, and fruit and vegetable stores, public retail markets, chain, and cooperative food-product retail stores.

Now, so far as the selling function is concerned, the individual farmer can make very little use of the steps in scientific procedure. He can practise market analysis and market forecasting to a limited extent. He can adopt and use certain policies of production, but he can scarcely even package or identify his products by brand on a large scale. He cannot select his own distribution channels irrespective of existing marketing middlemen. He cannot enforce particular price policies, because he is a small producer and must take pretty much what the assembling middlemen offer. He cannot work out dealer or consumer policies. He can make very little use of effective personal salesmanship and practically no use of advertising. Only by combining with other producers in cooperative marketing associations can he apply these techniques at all intensively or extensively. The agricultural middleman can do more, of course,

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but he, too, is limited by the fact that essentially he is a small handler in comparison with the total volume of almost exactly similar production.

The marketing of such raw materials as extractive goods and fabricating goods is also highly complicated. A number of important factors affect the problem of marketing this class of goods. The points of raw-material production are generally few and localized. The markets, also, are largely concentrated in industrial centers. Raw materials are usually large in bulk as compared with intrinsic value, so that transportation costs are significant. The uses of raw materials are constantly altered by research and experimentation. The question of substitution generally shadows definite uses. The wide variety of possible uses for raw materials presents a wide variety of markets which must be reached, and the whole process of marketing depends upon the rate of manufacturing activity. Wholesale and retail markets overlap, for such raw materials as paint, cotton cloth, and leather are sold for retail distribution as well as for industrial use.

The principal middlemen engaged in marketing this group of products are: commission merchants, brokers, sales agents, wholesalers and retailers. Special-type middlemen like wholesale and retail dock and trestle coal companies,

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and wholesale and retail lumber-yard companies, independent or line (chain), are also common. The individual producer of industrial raw materials and the raw-material middlemen can make a much more intensive and extensive use of scientific marketing procedure than can the farmer or the farm middleman. Market analyses are profitable because the exact needs of buyers can be rather accurately determined. The forecasting of supplies and price-trends is important because raw materials are purchased on a price basis and very frequently on short or long-term contracts. Distribution policies can be worked out somewhat irrespective of traditional marketing channels. Definite price policies, such as guaranties against price decline, and so on, are possible. Consumer policies which are equitable and fair can be made to build up good will. Aggressive and scientific personal sales forces can be maintained, for raw-material buyers are concentrated in industrial centers, do not require frequent visitation, and appreciate technical advice with respect to raw materials. Some use of advertising may be effective and economical, particularly when it is directed toward the manufacturer. Ultimate-consumer advertising is more costly and more dubious so far as results are concerned. Even the identification of raw materials by brand may be possible, most raw materials form a component part of a finished

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product, and the consumer is more likely to be interested in the finished-product brand than in the raw-material brand on a part or element of the finished product.

The accessory and installation goods which make up the class of technical products also present their special marketing problems. Here, the total number of buyers is relatively small. The competition for markets is extremely keen. The distribution of the markets has no inherent relationship to the distribution of population. The character of the market is determined by the particular use to be made of the product. Installation goods, in particular, must fit the needs of the individual plant or industry. Buying on specification and to individualistic order is common. Purchasing is carried on from the point of view of possible product performance. The buying test is the cost per unit of satisfactory service. Installation goods are purchased at infrequent intervals and the unit of purchase is large. Accessory goods are purchased more frequently but at irregular intervals and in varying amounts. The need for continuous and consistent service imposes service obligations upon the seller, particularly in the case of installation equipment.

Such are some of the significant marketing factors which affect the problem. The marketing functions are performed, in the main, by sales

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agents, wholesalers or jobbers, and such special-type middlemen as mill-supply houses (wholesalers) and sales-engineering concerns (sales agents). Retailers, too, are involved, for some kinds of accessory equipment such as wrenches, bearings, fans, and so on, are sold to the retail as well as the wholesale markets. Both the manufacturers of technical goods and the middlemen handlers may make an effective use of scientific marketing procedure.

Accurate and comprehensive market analyses are necessary to secure repeat orders, to avoid replacement by competitive products, and to consummate initial orders. Technical products are often purchased as the result of competitive bids, and market forecasting is absolutely necessary to estimate production costs in terms of present and future raw-material prices. Single distribution channels or mixed channels may be used as effectiveness and economy seem to dictate. Individual sales forces which scout for business and offer engineering advice may be profitably maintained. Buyers will consider the purchase of installation equipment long before it is actually purchased. They will purchase accessory equipment at irregular intervals. Hence advertising which is directed toward the industrial market, and which stresses performance facts, design, and construction details and service facilities, will be effective.

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The marketing of services is not a highly organized process as a general rule. Personal services are individualistic and consequently are marketed pretty much on a one-man basis. Few middlemen take a hand in the process. Occasionally the broker and the commission man become important factors, but, on the whole, personal services do not lend themselves to middleman handling.¹³ Personal services cannot be standardized and produced in quantity to any extent. Often they cannot be accurately described. They cannot be transported, classified, and measured in the sense of physical products. Accordingly, sales are usually more or less direct and the functionaries of distribution are absent.

In the case of rights, such as bank credit, insurance, and securities, more elaborate marketing procedures are generally employed. Insurance may be sold by the insurance company's own marketing department or through middlemen known as insurance brokers. A considerable use can be made of the whole technique of scientific marketing. Bank credit is obviously a direct proposition between lender and borrower. Securities are marketed by the institutions described in Chapter IX and through organized market places called exchanges. The New York Stock Exchange is the best-known American exchange through which securities are bought and sold. Corporations must go through a number of

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formalities and must provide and establish many facts about their business before their securities may be traded in on the exchange. When these securities are admitted for trading purposes, they are said to be "listed."¹⁴ In New York there is also a Curb Exchange—so called because its trading was formerly carried on in the open street—through which securities may be bought and sold. Such exchanges make investment easy, since they provide a place where almost anyone may buy and sell through agents or brokers.

Manufactured consumers' goods are produced in quantity for sale to wide markets. They are intensively marketed through middlemen, and pass, in the main, to the individual or the family through retail outlets. The jobber is perhaps the most distinctive wholesaler in the marketing of manufactured consumers' goods. He may be a general jobber who handles a full or complete line of merchandise such as groceries or hardware. Or he may be a specialty jobber who handles a relatively small group of articles such as knit goods or hosiery products. He is a merchant middleman who stands between the manufacturer or the broker, sales agent, or commission merchant and the retailer.

Many types of retail outlets can be distinguished in the marketing of manufactured consumers' goods. The general store which is typical of the small towns and rural districts is perhaps

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the simplest type of retail outlet. It handles groceries, hardware, dry goods, shoes, clothing, hats, and even farm implements. It has a relatively small volume of sales and cannot carry any complete assortment of each class of the goods which it sells. As a rule it is owned and operated individually or "independently." Then there is the specialty store, a single unit retail store which handles a limited line of merchandise and represents the trend toward specialized retailing.¹⁵

Two types of specialty store are common, the neighborhood specialty store and the exclusive specialty store. The former type depends for its market on the "contiguous territory" rather than on the quality of its merchandise and the service rendered. It handles convenience goods or shopping goods. The latter type of specialty store caters to a "downtown" and quality trade and handles shopping goods and high-class specialty goods. In general, it charges high prices, carries a carefully selected stock and provides a maximum of service. The department store is a "retail institution organized on a departmental basis, in which one of the large departments is dry goods."¹⁶ It is typically a large-scale establishment and may include under one roof fifty or a hundred separate departments. It relies for its merchandising success upon scientific organization and manage-

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ment, quantity purchasing, abundant publicity, well-trained counter salesmanship, and service to its clientèle. Usually this service consists of delivery, credit extension, and convenient store facilities. The mail-order house is also a retail establishment, but a retail institution which secures its orders by mail rather than by personal contact with purchasers.¹⁷ The large general-merchant mail-order houses carry and market a tremendous variety of merchandise which is mainly purchased from manufacturers. They follow the practise of carefully guaranteeing their merchandise, of charging low prices, of making special inducements to buy in quantity, and of executing their salesmanship in the catalogs. Other types of mail-order houses confine their offerings to one or more special lines.

The chain-store idea in modern retailing represents the trend toward standardization as applied to separate retail units under central management. In fact, a chain-store system may be defined as "a group of stores handling similar lines of merchandising with a single ownership and centralized management, but with decentralized location."¹⁸ Generally, the unit member stores are located with reference to traffic streams. The appearance of each member store and the stock which it carries is highly standardized and conforms with that of each other member of the chain. The buying and the

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storing are usually carried on by the central office. Store managers and clerks are trained and standardized promotion plans are used. Naturally, there are many types of chains, chain general stores, chain neighborhood-specialty stores, chain exclusive-specialty stores, and even chain department stores.

In marketing manufactured consumers' goods through these various types of middlemen, the manufacturer can make an intensive and extensive use of the several steps in scientific marketing procedure. Broadly speaking, he will find it necessary to assume a very large portion of the selling burden. He may attempt to hand his entire marketing problem over to the middlemen through whom he chooses to reach the consumer, but usually any such effort will be somewhat unsatisfactory in profit results. Accordingly, the medium and large-sized manufacturer will attempt to set up some marketing organization of his own through which the techniques of scientific marketing procedure can be applied.

Sound logic and scientific methodology have not been applied to the problem of organizing a manufacturer's marketing department to the extent to which they have been utilized in setting up the production or manufacturing department. As a result too little attention has been paid to functionalizing the marketing department, coordinating its activities, and separating

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study and planning from performance. The typical department is headed by a sales manager, to whom the advertising manager and the branch sales managers (if the company maintains sales branches) are responsible. In the more elaborate organizations the marketing department is presided over by a vice-president in charge of sales, a director of distribution, or a marketing manager. Directly under this executive may be the field sales manager, the sales office manager, the sales promotion manager, the advertising manager, and the director of market research. Obviously, this type of organization takes more account of specialized tasks. If the concern executes and places its own advertising, the advertising personnel may be subdivided into copy, art, placement, and checking groups. If, however, most of the advertising is planned, executed, and placed by an advertising agency, the work of the advertising manager may be confined to direct-mail advertising, to internal house organs, and to maintaining an advisory and checking contact with the advertising agency. No standard organization set-up can be indicated here, because of the variety of present business practise, and because of current uncertainty with respect to what should be included under the head of various functions, such as sales promotion, for example. The most that can be said is that in this so-called "distribution

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age," when marketing costs appear to be mounting rapidly, much more study and experimentation in marketing organization may be expected. In most cases it is certainly needed.

The manufacturer of consumers' goods can hardly escape the necessity for continuous and careful market research and analysis. Market data should furnish the basic factual information upon which policies are set up. Research and analysis are necessary prior to the production of a new product and continuously throughout the life of the enterprise. They furnish information with respect to undeveloped market possibilities, unprofitable territories, new needs and wants, necessary adaptations and changes in the product line, and a veritable host of other important considerations. Research makes available quantitative information concerning the purchasing power of trading areas, the average per capita consumption in those areas, and so on. Moreover, it provides qualitative information concerning consumers' prejudices and preferences. Both types of information are necessary, since willingness to buy is just as important as readiness to buy.

Product factors, market factors, and competitive factors are the chief focal points of most market research and analysis. Investigations are carried on in an effort to secure facts and to secure collections of opinions or judgments of

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considerable numbers of people.¹⁹ The methods used to gather these facts are the circulation of mailed questionnaires and personal interviews with dealers and ultimate consumers. In addition, laboratory and user tests of the product line may be conducted from time to time. Economy investigations of the actual techniques used in the marketing department may also be made and often result in new methods which effect important savings. Thus, market research may range over a wide field from investigations of the average number of salesmen's calls per day to consumers' color preferences with respect to packages, to study of magazine duplication of circulation, to evaluations of consumer acceptance in various territories, and so on.

Forecasting is similarly important as a basic factor in business planning. It is necessary to look ahead for considerable periods, "to evaluate trends and to make preparations for them."²⁰ While the technique of market forecasting is not yet highly developed, some enterprisers have been able to work out forecasting methods of rather surprising accuracy. Where markets are clearly defined in character, where product uses are well known, and where complete and accurate records of past accomplishments have been kept, forecasting is possible and will be valuable. It is certain that one of the greatest needs of the manufacturing enterprise

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is a technique for effectively coordinating production programs with carefully-determined sales possibilities. A disproportionate emphasis upon volume of production may throw an impossible burden upon the marketing department and cause marketing costs to mount sky-high in the frenzy of "high-powered" selling.

The first group of policies which need to be decided upon in the light of market facts is the group of product policies. Whether the enterprise is considering the addition of new products to the line or the adaptation of old ones, definite product policies are desirable. These policies have to do with the number and type of products to be made and sold, the relation of style and quality, the company's guaranties, the identification and the packaging of the product line. All questions of trade-marking, "family" or individual brands, the use of a trade character and trade slogan, fall under this general heading of product policies. All these policies are of particular importance in marketing, since they so largely determine the talking points and the selling points which may be used in distributing ideas about the production through personal salesmanship and advertising.

Price policies, too, need to be carefully considered and definitely set up. These policies have to do with such fundamentals as the general price level which it is desired to maintain, either

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the market "plus" level, the market "minus" level, or the "at the market" level. They involve such matters as guaranties against price declines, which may be made to dealers or ultimate consumers. They include all the many and complex discount questions, trade, cash, quantity, geographical, forward datings, and the like. Taken as a group, they determine the conditions under which the business enterprise will sell and deliver goods. It is important that they be clear and definite and that the marketing department should understand the underlying reasons for them and the objections which it may encounter in presenting them to prospects and customers.

The distribution policies of a business enterprise are concerned with the selection and use of the marketing channels through which the product line is to be distributed to consumers. The nature of the product line, the existing trade organization, and the peculiar circumstances of the particular enterprise are important factors in choosing a definite distribution policy.²¹ The principal available marketing channels are as follows: sale direct to consumers by mail, personal solicitation, or through manufacturers' retail stores, sale direct to retailers who deal with the ultimate purchaser, sale direct to wholesalers or jobbers, and sale direct to middlemen who customarily deal with the wholesaler or job-

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ber (sales agents, brokers, factors, commission merchants). These channels may be used singly or in combination. In fact, there appears to be a growing tendency to adopt "mixed" policies of distribution, to use these channels in combination. In such instances a product or territorial line of demarcation is usually set up between two different channels of distribution. A manufacturer, for example, may sell direct to retailers in Atlantic seaboard cities, direct to jobbers west of the Alleghanies to the Mississippi River, and direct to brokers in the West and on the Pacific coast. Or he may sell branded, first-quality, packaged products direct to retailers, and unbranded, bulk products to wholesalers and jobbers.

In the use of any one channel of distribution, a policy decision must be made with respect to the number of middlemen that will be used—whether the policy will be general distribution, selective distribution, or exclusive distribution. If the product is a convenience good, general distribution is desirable whether it is direct-to-retailer distribution or wholesaler-retailer distribution. If, however, the product is a shopping good, selective distribution may be satisfactory. And if the product is a high-class specialty, exclusive-agency distribution may be advisable.

Again, the question of the particular types of retail outlets which should handle the product is

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important. The ultimate retail market should be carefully considered, whether it is reached directly or through middlemen. General stores, neighborhood specialty stores, exclusive specialty stores, mail-order houses, chain stores, and department stores all have special marketing characteristics and offer various possibilities which depend, in the main, on the exact nature of the product line. In addition to the product as a determinant, as has already been suggested, the existing marketing custom and resultant trade organization may preclude the choice of a particular distribution channel. "The existence of a smooth working system of middlemen tends to force a company to take unusual risks if it departs from the customary channels." ²²

Dealer and consumer policies are also essential and vital because of their effect upon marketing costs and upon market good-will. In general, these policies have to do with returned goods, claims and allowances, cancellations, sales on approval, sales on consignment, instalment purchasing, credits and collections. The perplexing problem here is the extent to which standard policies can be applied, the question of individual exceptions to standard policies, and so on. Exceeding care is necessary to establish and maintain policies which will be fair, which will give the dealer or customer some freedom of adjust-

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ment when dissatisfied, and which will avoid preferential favors.

These, then, are the essential sets or groups of policies which must be formulated and put into operation if the activities of the marketing department are to be effective and economical.

The next matter of marketing technique is concerned with the direction and management of the field force of personal salesmen. The personnel of the personal sales force may be large or small, depending upon the scale of marketing operations and the method of distribution. If it is large it will have to be carefully organized, perhaps on the basis of branch-office groups, branch-office crew groups, or perhaps on the basis of function, one group for each major class or products, or on some combination of these possibilities.

Provision will necessarily be made and machinery will be set up to recruit salesmen for the field force. Possible sources will be listed and job analyses and evaluations of past experiences will guide the dependence upon these sources. Advertising, personal, and mail contacts with employment agencies and educational institutions may be developed in an effort to secure a sufficient supply of sales applicants.

Methods of selecting salesmen from the recruited applicants will also be evolved. The technique of interviewing, evaluating recom-

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mendations, and applying tests, psychological or factual quizzes will be developed to aid in the process of selection.

If the selling task is at all complex or if the average buyer is at all difficult, the technique of training the field sales force will also be given attention. Few business enterprises can afford to allow their new salesmen to practise on prospects and customers. Consequently, rather elaborate programs of initial training will generally be imposed upon the new recruits. Moreover, individual instruction, class instruction, and correspondence instruction may be offered from time to time to the force as a whole, to the experienced salesmen as well as to the novices. In connection with sales training, the matter of equipping the field sales force will be studied and worked out. Sample cases, models, photographs, motion-picture projectors, advertising portfolios, and sales manuals, will come in for their share of attention as devices which may aid the effectiveness of the selling talk.

The chief problems of supervising the field sales force have to do with setting up standards of accomplishment, laying out territories, controlling the salesman's time, and controlling the salesman's expenses. Careful territorial allotments will be made and routing will be closely supervised in an effort to cultivate the market intensively as well as extensively. Standards of

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performance with respect to number of calls, and so on, will be rigidly insisted upon wherever and whenever standards are possible. Daily work and daily expense reports will ordinarily be required of all men in the field, and these reports will be checked and used as the bases of reprimand, congratulation, and additional instruction.

Efforts will also be made to work out a systematic procedure for the encouragement and stimulation of the salesman's best efforts. Compensation plans will be studied, adapted, and combined in order to set up money rewards which will act as sound incentives. Sales contests will ordinarily be held from time to time to instil the spirit of friendly competition and to draw attention to particular phases of the selling job, such as window-dressing assistance to the retailer, for example. Occasionally sales conventions may be held at the home or branch office to furnish an opportunity for the consideration of particular sales problems and to develop friendly contacts between the home office executives and the field force. Company magazines may be instituted and edited for the sales force in the interests of stimulation, entertainment and education. It should be remembered that the salesman, in the very nature of things, is more or less his own master while on the road. Moreover, in most cases, he is alone in his territory and lacks the direct incentive "which is furnished

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by working with others at similar tasks.”²³ He needs stimulus and incentive, so that he will do himself justice by doing the best that he can, and so that the marketing activity will be carried on at a minimum of cost in comparison with results.

The use of advertising presents its special problems of control, problems which are just as vital as the problems of personal salesmanship. While advertising as a selling medium is much more recent in its development than is personal selling, it is to-day an especially effective marketing force. Moreover, it may become highly costly and wasteful if it is not carefully controlled.

Advertising is used to present ideas about goods to prospective and present purchasers. It may be directed and controlled by the marketing department of the individual business enterprise or by a specialized advertising agency engaged to do the work by the individual enterpriser.

The technique of building an advertising campaign is rather highly refined. Planning the marketing purpose of the advertising campaign is the first step. The general copy theme or “dominant” idea is decided upon after considering the purpose of the campaign, the attitude of the reading audience which the campaign desires to reach, the chief buying motives which

influence the purchase of the particular type of product, and the exclusive or special features of the product when compared with competing products. The copy personnel then experiments with different methods of approach, of development, and of close, and prepares possible pieces of copy. The art staff experiments with visualization and attempts to express in picture the dominant or a related but appropriate idea. When decisions are made on copy and visualizing illustrations, the layout personnel attempts to combine the copy elements and art elements in an arrangement which will carry the meaning that the advertisement is designed to express and an arrangement which will be in accord with certain structural laws and yet be distinctive.

Next, the media group will suggest the most effective types of media to be used, the best proportionate use of the various types, and the most effective individual media within the group or type. The whole range of magazines, newspapers, trade-journals, painted or electric signs, posters, street-car or subway cards, letters, booklets, catalogs, programs, novelties, and so on, will be considered. Qualitative and quantitative (circulation) reasons will be presented in support of the suggestions. Costs will also be itemized.

When the media are decided upon the schedule

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of insertions is worked out, cost estimates are set up and advertising appropriations requested. If the resultant plan requires an advertising appropriation which cannot be secured, the plan will necessarily be trimmed. But in every case the start of this revision process should be with the purpose or objective. If the initial plan has been soundly prepared it can hardly be trimmed without also trimming the campaign objective.

Finally, it should be said that special efforts are made to coordinate the work of advertising and personal salesmanship, to fuse these two marketing forces into a unified marketing campaign. There is but one answer to the growing demand for better marketing. The whole process must be studied as the processes of production have been studied. Principles and techniques must be evolved. Campaigns must be planned scientifically, controlled intelligently, and measured relentlessly.

XIV

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· INSTEAD of attempting to operate a snug, easily managed, financially guarded, and therefore safe business, which will yield a reasonable profit, many business enterprisers try to buy and sell double the quantity of goods which their capital justifies. Instead of spreading an amount of canvas proportioned to the tonnage of their craft, the mass of those who embark on the treacherous ocean of trade crowd on all sail and endeavor to make the utmost knots per hour. For a while "fair laughs the morn, and soft blows the zephyr." But suddenly a squall bursts upon them, and they are swept, in spite of every effort, towards a lee shore to break up on the rocks of bankruptcy or receivership. All of which is by way of saying that inefficient financial administration can do much to wreck a business.

Broadly speaking, the financial administration of a particular business enterprise is concerned with maintaining its capital so that its credit will be good with outsiders, and maintaining a regular rate of income on the investment of its proprietors, partners, or stockholders so that it will be in good standing with its owners.¹ Apparently, this is a simple enough proposition,

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but when it is broken down into necessary operations, the task of financial administration is certainly many-sided and complex. In terms of necessary operations, it includes such relatively infrequent financial operations as securing capital funds to start a business and effecting an expansion of capital funds from time to time. It involves such day-by-day financial operations as distributing earnings, providing for depreciation, setting up essential reserves, making short-term loans, controlling credits and collections, regulating the routine for handling cash, handling taxes, and insurance, controlling the purchase, mortgaging, leasing, renting, and selling of real estate, recording and classifying financial facts by systematic accounting, preparing and publishing financial standards of the condition and progress of the enterprise, and so on.

In the beginning and throughout all the stages of the organization of a new business enterprise there are numerous questions which must be considered from the point of view of finance. Decisions must be made upon a number of matters which are inherently financial in nature. Some members of the organizing group must furnish the necessary financial advice or outside counsel must be secured. Such matters as the amount of funds which must be in hand in order to start the venture, how long a period will elapse

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before business profits begin, how these necessary initial funds are to be secured, what kinds of contracts shall be made with those who supply the funds, and how issued securities shall be marketed are all vital financial problems. They need the application of a purely financial type of thinking.

Obviously, some of the initial fund requirements in beginning a new business are necessary to provide for a plant, equipment, and machinery. The physical plant and its equipment are more or less permanent in character and call for a long-time investment of capital. They constitute the fixed capital requirements. Now, a new business will not begin to earn money as soon as it is started. Even tho a complete business machine is set up and manned by competent workers, there will still remain the need for funds "to put the entire machinery in operation and to keep it in operation till the business pays for itself."² During the period of initial production and pending the profitable marketing of goods, capital is tied up by work in process. Working capital, then, is needed as well as fixed capital. Nor is the need for working capital confined to the initial period of operation. At almost any time in its career, a business enterprise is likely to find periods when its earning power is reduced and when it needs additional working capital. And so it may be said that

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“working capital is the life-belt that keeps a business afloat when its earnings are suffering from cramps or while it is still learning to swim.”³

How much fixed capital must be secured in order to acquire the necessary fixed assets, may be determined with a fair degree of mathematical accuracy. The cost of constructing buildings and plants, the costs of equipment and machinery, and the costs of installation can be ascertained. The amount of initial working capital which is necessary to acquire raw materials, to finance partly-finished products and finished products, to provide for labor, to finance accounts receivable, and so on, until profits begin to be realized cannot be quite so definitely determined. Some of the important factors which must be considered in estimating these initial working-capital requirements are: the proposed volume of production for the market, the probable distribution of purchases throughout the year, the credit terms upon which purchases will be made, the distribution of manufacturing and selling expense throughout the year, the credit terms upon which sales will be made, and the probable distribution of sales through the year.

Careful attention must be given to the ratio of working capital to fixed capital when a business starts. An inadequate provision for equip-

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ment may result in a loss of productive efficiency. And too liberal an outlay for equipment may cripple the business by impairing its working capital.

If the new mercantile firm will rent its store instead of buying a building, and if the new manufacturing concern will have its product manufactured on contract for two or three years instead of buying a plant and equipping it, the infant enterprise will have time to get its bearings; whereas a burden of fixed charges at the outset may be a source of delayed profits or even receivership. The new business needs to build up its resources.⁴

Business enterprises are dynamic organizations. They either expand or take sick and ultimately pass away. They move forward or backward. Going concerns, then, face this same problem of acquiring new permanent capital and new working capital. In prosperous times, business men are wont to plan new establishments or enlarge old ones. One method of obtaining funds to purchase more machinery or to enlarge the factory is to turn the profits back into the business. This, however, is a slow method unless profits are unusually large. In many cases, financial administrators do not feel that it is desirable to wait for the slow accumulation of earnings in order to secure additional fixed capital. They are quite ready to face the problem of securing additional amounts from outside the business. In

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the same way, any suggested expansion may present a need for additional working capital with which to purchase raw materials and the like. Moreover, irrespective of expansion, temporarily-reduced earnings, as has already been suggested, may make it necessary to secure additional working capital. In considering these two needs when they become apparent, the financial administrators must give considerable attention to such questions as: the continuing ratio between permanent and working capital, the necessary additional amounts of each, what kinds of contracts shall be made with persons who have funds to supply, how these contracts can be made attractive to lenders of funds and still be safe and sound from the point of view of the business, how these contracts shall be negotiated, and what use shall be made of financial institutions and financial middlemen.

The financial administrator or manager may accomplish the task of securing initial fixed and working capital or new fixed and working capital in many different ways and by making use of many different contractual devices. An individual proprietorship or partnership, for example, may secure fixed capital by issuing to the mortgage company a promissory note which pledges property as security. The mortgage company furnishes the funds and may market the mortgage to individuals, savings banks, insur-

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ance companies, or trust companies. Or the individual proprietorship may become a partnership, the new partner or partners bringing in additional fixed capital. Or the individual owner may himself decide to put more fixed capital into the business. The partnership may add to its fixed capital by expanding the partnership and bringing in new partners who are willing to invest fixed-capital in the particular business. Working capital may be secured by the individual proprietorship or partnership by securing trade credit from concerns which sell goods to the particular proprietorship or partnership. Or they may find commercial credit or discount companies which are willing to buy the proprietorship's or the partnership's "accounts receivable." Or they may go to commercial banks and negotiate short-term loans on the basis of promissory notes. Or they may obtain funds from commercial-paper houses in the same way.

The corporation secures its fixed and working capital in much the same way as the individual proprietorship or partnership. It may sell its stocks or bonds to members of the company personnel, to former and present stockholders. It may attempt the direct sale of its securities, altho few corporations have the facilities or the experience necessary to distribute their own securities except in limited amounts. Usually, then, the corporation must make use of some

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financial middleman. An investment-banking institution may agree to underwrite the corporation's stocks and bonds. The investment-banking institution then sells these securities to individuals, insurance companies, savings banks, trust companies, and other concerns. If its stocks and bonds are not of high grade, the corporation may find it necessary to call upon dealers in low-grade securities who attempt to seek out investors through personal sales forces, circulars, and publication advertising.⁵ In its short-term needs, the corporation may be assisted by grants of trade credit. Its "accounts receivable" may be taken over by commercial credit and discount companies. It may borrow on its promissory notes from a commercial bank or a commercial-paper company.

The capital of a business enterprise is the net value of the enterprise's assets, the plant, its equipment, materials on hand, cash, and so on, all added together, and less the total of liabilities to creditors. The term capitalization, as commonly used, means the total par value of the security issues outstanding at a given time.⁶ Naturally, the capitalization of a concern is rarely identical with the actual value of its outstanding securities. When the value of the outstanding securities is higher than the capitalization indicates, the enterprise is said to be under-

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capitalized. When the opposite situation obtains, the enterprise is said to be overcapitalized.

The bases of capitalization are actual cost, cost of replacement, or earning power. The basis of actual cost is seldom used except "when the business is small or closely owned." Nor is it always a conservative basis. Recapitalizing an old business at cost may result in overcapitalization if the assets of the business have deteriorated. The cost of replacement is not widely used as a basis for capitalization except, perhaps, in cases of reorganization. The most commonly accepted basis is that of earnings.

Let us assume that a business with a \$100,000 plant is earning \$30,000 a year on the average. How much is it worth? Certainly more than \$100,000. We should be glad to pay \$200,000 for it, for this would give us 15 per cent. on our money. It is worth more than this. We should be able to mortgage the plant for, say conservatively, \$50,000 at 6 per cent. The interest would take only \$3,000. We might put out a 7 per cent. preferred-stock issue of \$100,000, which would take \$7,000 for dividends. This leaves \$20,000 in earnings for the common stock, enough to pay 8 per cent. dividends on an issue of \$250,000.

The earning power, in this case, has determined the amount of capitalization—\$400,000 the total of the three security issues.⁷

It is not difficult to capitalize a going business on the basis of earnings, because actual and tangible results of the business are available in

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the earnings records. In the case of a new business, however, anticipated earnings must be used as the base. Hopes must, then, be considered very carefully and conservatively.

Three types of financial structures are common. The first design may be said to be somewhat like that of a pyramid.⁸ Suppose that a certain company is capitalized as follows: Mortgage bonds, \$200,000; other bonds, \$400,000; preferred stock, \$1,000,000; and common stock, \$4,000,000. The broad base of the structure rests upon the common stock contributions of the actual owners. From the base upward, the structure tapers up through a contribution of creditors of \$400,000 to the apex contribution of creditors (mortgage bondholders) of \$200,000. Only slightly more than one-sixth of this corporation's funds come from outside the business itself. Corporate income *must* be paid out as interest on only one-sixth of the corporation's capitalization. If the corporation does not pay interest on its mortgage bonds, the creditor bondholders can have the mortgage foreclosed. If it does not pay interest on its other bonds, the particular bondholders may institute suit against the corporation. In either situation the corporation will be likely to land in receivership. The corporation, however, is under no obligation to pay dividends on either class of stock unless the stockholders can prove in court that the direc-

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tors are acting in bad faith by actually withholding dividends. Of course, if the preferred stock is cumulative preferred stock, the stated preferred dividend percentages will pile up and remain an obligation to be met in the future. Such a financial structure as is outlined above provides great strength. While its sloping sides cut off valuable space and mean some waste borrowing space, it is nevertheless firmly based. Any corporation which must face wide variations in earnings between its fat and lean years, must work toward the pyramid design.⁹

The other extreme of structural design is the inverted pyramid. Suppose that a corporation is capitalized as follows: Mortgage bonds, \$3,000,000; other bonds, \$1,000,000; preferred stock, \$600,000; and common stock, \$400,000. Such a company, figuratively speaking, is standing on its apex. Its base is up in the air. Four-fifths of the capitalization requires the expenditure of corporate income for fixed interest charges which must be paid if financial difficulty is to be avoided. Certainly, such a financial structure will not withstand the stress and strain of financial storm. Any business crisis or market change which results in a sharp reduction in earnings will precipitate a thunderous fall and crash.

The mean type of structural design which stands between the pyramid and the inverted pyramid is often called the office-building finan-

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cial structure. Suppose that a corporation is capitalized as follows: Mortgage bonds, \$1,000,000; other bonds, \$1,500,000; preferred stock, \$1,000,000; and common stock, \$1,500,000. Such a company, figuratively speaking, is like an office building. Borrowed funds and owned funds are equal. The structure is designed with maximum utility in mind, as well as strength. However, it should be indicated that in this particular set-up, the fixed charges on borrowed funds are heavy. In any attempt to construct an office-building type of financial structure, conservatism necessitates, as a general rule, more emphasis on basic strength.

Such, then, are some of the relatively infrequent financial problems that confront the financial administrators of a modern business.

There is, for example, the matter of maintaining adequate reserves and building up the surplus. It is customary and desirable for most concerns to charge against the earnings of each year certain estimated amounts as rainy-day insurance. Such funds are called reserves and are carried on the balance sheets to meet possible contingencies and to provide for future expenses. The existence of these reserves is necessary to preserve the company's capital in an unimpaired condition. A common form of reserve is that which is set aside for depreciation. Plants, machinery, store buildings, and the like,

depreciate physically from year to year. "Unless allowance is made for the wear and tear on property and machinery, a business is living off its own fat."¹⁰ The normal procedure may be as follows: If a particular machine has a probable life of ten years, ten per cent. of the value of the machine may be set aside every year in a depreciation fund. At the end of ten years, enough funds will have been accumulated to enable the purchase of a new machine.

If the company makes profits, some of the profits should be left in the business—in the surplus reserve, or account. Generally, it is desirable to fix the stock dividend rate below the estimated minimum earnings. Then, in the good years, the company's extra profits may go into surplus. Such a procedure will make it reasonably possible to pay dividends consistently and year after year. "A company that pays \$20 dividends in boom years and has to cut its dividends entirely during a depression is not serving its owners well. The income stops at the very time when it is likely to be needed most."¹¹ Surplus accounts, of course, may be built up by other methods than the accumulation of certain amounts of the earnings. The revaluation of assets, the sale of assets at more than the value at which they were carried on the books, the donation of an asset or of stock, and the sale of

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stocks or bonds above par may provide additional contributions to the surplus.¹²

Decisions with respect to what dividends shall be paid to the stockholders also constitute an important financial problem. A conservative financial policy restricts the declared dividends to an amount considerably less than the earnings. Certainly, dividends should not be declared in excess of earnings. And dividends should never be declared unless they have been earned. The general aim of the financial administrator should be regularity in dividend payments. So far as the stockholder is concerned, regularity of return is more to be desired than high returns in one year and none in the next. Where there are unusual and unexpected profits, extra dividends may be declared, which by their name-tag warn the stockholder not to expect them regularly. If the concern has a large earning power but needs its cash for present operations, it may pay dividends in scrip or stock. Scrip is nothing but an unsecured interest-bearing note.

One of the day-by-day transactions usually assigned to the financial department is the handling of credits and collections.¹³ The financial director, in consultation with the director of marketing and the general manager, considers the credit policy of the concern, and together they reach a definite decision as to general credit

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limits. Subordinate financial officers may compile credit data from such agencies as Dun's or Bradstreet's, and may supervise the methods of gathering credit data by the firm's own sales force. With such information before them these financial officers pass on the credit of all customers either on individual transactions or through approved lists. The financial officers may also more or less influence the collection policies.

The financial department also has the responsibility for the custody and maintenance of funds. There is a large amount of detail and routine work in connection with the daily disbursements and receipt of funds. Most of this routine work is done through the medium of a cashier. His activities may include: cashing all receipts other than cash; depositing all cash, checks, and cashed receipts; setting up all petty cash funds, disbursing petty cash, making all transfers of funds between depositaries, preparing pay-rolls, and disbursing all moneys, subject to proper voucher authorization.

The financial department may also assume the responsibility of supervising the correspondence in all cases of financial claims against the company. It may approve all adjustments made by the claim department. It may be required to prepare all tax returns which are made necessary by governmental law. It may determine the amount

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of insurance and kinds of policies required to afford all necessary insurance protection. It may have the authority to place all such insurance and be responsible for the payment of all premiums. Thus there are innumerable miscellaneous duties that fall to the financial department.

Now, the financial officers depend upon the accounting group for the facts upon which financial judgments may be based. Consequently, the financial department will very often have charge of the accounting personnel through the chief accountant.

When operated under a proper system and intelligently used, accounting records are reliable guides and faithful indices of business progress. The accounting records will reflect not only total profits earned or losses realized, but—in minute detail—the sources of profits, causes of expense, and the proportionate profits made on any line or division of a business. This makes it possible for the financial manager to suggest the reduction or elimination of unnecessary expenses, to suggest the necessity for increasing the sales of profitable articles and for curtailing the sales of unprofitable ones, or for reducing the cost of producing and selling the unprofitable items. Without accounting systems, large-scale business operations would be practically impossible and small-scale operations would be frightfully wasteful.

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Books of account are kept according to the single-entry or double-entry system. The former system is not widely used or generally approved by accountants. It is mainly used by individuals and very small business enterprises.

Equality and equilibrium constitute the underlying principle of the double-entry system.¹⁴ Under this system, every transaction is entered twice in the books of account. There is a debit entry and a credit entry for every transaction. Both the debit and credit "sides" of the books always total the same given amount at any given time. Various accounts may be debited or credited on the principle that "that which receives value is a debtor, and that which gives or produces value is a creditor." The particular accounts may be named for some specified person or group of persons or for some subdivided phase of the company's own personal account. Thus we have personal accounts like "I. Jones & Co.," and nominal or impersonal accounts like "Furniture and Fixtures."

Accounting is a record of progress and not merely a statement of condition. Every transaction has an effect upon the company's affairs. The accounts will express the results of every transaction, and every transaction will bring about two of the following results: increase of assets, decrease of assets, increase of liabilities,

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decrease of liabilities, increase of proprietorship, decrease of proprietorship.¹⁵

There are two general types of books of account, the books of original entry and the books of final entry. The *journal* is typical of the books of original entry and the *ledger* is typical of the books of final entry. Generally, a number of journals are used. There may be a purchase journal which records the goods bought, from whom they were bought, price, department for which they are intended, and so on. The sales journal will give data with respect to sales orders. The cash journal will record all receipts and disbursements of cash. A petty-cash journal, a note journal and a pay-roll journal may also be used. The ledger is a book containing the accounts of the business. An account is a collection of debits or credits under one heading. The heading indicates the subject-matter to which the particular account refers and may be either personal or impersonal. Debit and credit items which appear in the books of original entry must be transferred or *posted* to their proper accounts in the ledger.

By the use of *controlling* accounts, the classification of accounts in the general ledger may be reduced to a comparatively small number. A *controlling* account is an account kept in the general ledger for the purpose of proving the accuracy of some subsidiary record. *Controlling*,

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then, is the process of transferring to subsidiary ledgers, accounts which, instead of being kept in the general ledger, are entered in special or subsidiary ledgers. *Accounts Receivable* and *Accounts Payable* are illustrations of controlling accounts. They appear in the general ledger and prove the correctness of the subsidiary *sales* and *purchase ledgers*. The sales ledger contains a record of customers' accounts. The main debit items come from the sales journal, and the main credit items from the cash journal: but both debits and credits for customers' accounts may come from the general journal. The purchase ledger contains a record of creditors' accounts. The principal debit items in this book are posted from the cash journal, and the main credit items from the purchase journal; but both debits and credits for the creditors' accounts may come from the general journal.

From time to time and especially before the preparation of any financial statements, trial balances are taken off the ledger for the purpose of testing whether or not the books are in equilibrium and whether or not transactions have been accurately recorded. A *trial balance* is simply a list of the names and the totals of each open ledger account in terms of debits and credits. One column of figures in the trial balance shows the total of each debit column in the ledger. The other column in the trial balance shows the total

typical of the form in which this statement is usually presented:

Statement of Profit and Loss for the Month Ended
January 31, 19—

Sales \$50,000

Cost of Sales

Materials Consumed:

Inventory Raw Materials, Jan.

1, 19— \$20,000

Add:

Purchases of Raw Ma-

terials \$42,000

Freight Inward 50

Cost of Purchases of Raw Ma-
terial 42,050

Total Material Supplies
available for use 62,050

Less Inventory Raw Materials Jan.
31, 19— 30,000

Cost of Materials Consumed..... 32,050

Direct Labor 10,000

Prime Cost 42,050

Manufacturing Expenses:

Indirect Labor 3,000

Light 50

Power 250

Rent 1,000

Insurance 200

Repairs to Machinery 200

Depreciation of Machinery
and Equipment 700

Total Manufacturing Expense... 5,400

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Total Cost of Goods Put in Process ...	47,450	
Add—Inventory—Goods in Process, Jan. 1	15,000	
	<hr/>	
Total Goods in Process Handled during the period	62,450	
Deduct—Inventory—Goods in Process, Jan. 31	20,000	
	<hr/>	
Cost of Goods Manufactured	42,450	
Add—Inventory Finished Goods, Jan. 1	10,000	
	<hr/>	
Total Finished Goods available for sales	52,450	
Deduct—Inventory Finished Goods, Jan. 31	9,000	
	<hr/>	
Cost of Goods Sold		\$43,450
		<hr/>
Gross Profit on Sales		6,550
Operating Expenses:		
Selling Expenses	2,650	
Administrative Expenses	1,600	
Total Operating Expenses	<hr/>	4,250
		<hr/>
Operating Income		2,300
Other Income:		
Purchase Discounts		2,800
		<hr/>
Total Income		5,100
Deductions from Income:		
Sales Discounts	1,900	
Provision for Doubtful Accounts	300	
	<hr/>	
Total Deductions from Income...		2,200
		<hr/>
Net Profit for the Month		\$ 2,900
		<hr/>

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It is clear that a great deal of valuable information can be obtained from a single balance sheet, and from a profit-and-loss or income statement for one period. However, it is equally obvious that changes in conditions which are made in a particular period can hardly be regarded as satisfactory or desirable changes unless they result in a financial improvement over a previous period. Results should be shown in comparative statements. By studying and analyzing the effects of a certain policy with respect to periods, the financial officers are in a position to evaluate the policy with reasonable accuracy.

More and more, the financial department is requiring and using statistical records to supplement the usual accounting statements. This tendency has broadened the scope of the work of the accounting group and of the financial officers from the mere expression of financial debits and credits to a larger field where real productive and constructive work is done. Statistical records present results measured in physical units. These records quite frequently explain facts brought out in the financial statements, facts which are not clearly understood until more light is thrown upon them.

Statistical records have become so important that the financial officers of progressive business enterprises make plans for collecting statistical information just as carefully as they do for col-

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lecting accounting information. Statements are prepared which show the physical units produced, time records, schedules of accounts receivable, statements of new customers, inventory schedules, and so on. These reports may be compiled as often as once a week. The financial department receives them currently and takes note of any unsatisfactory condition in any department. Reliance, then, is not placed solely upon the primary accounting records.

Finally, it should be said that while accounting and statistical systems must be complete and detailed, care must always be exercised by the financial officers to see to it that the cost of operating the systems should be as economical as is consistent in obtaining the maximum of necessary information.

A business ought to watch its accounting diet. With too little accounting the business may starve. With too much accounting it will be wasting energy in the time consumed and the salaries paid for the working of a system that may be unnecessarily detailed for its needs. After all, accounting is at best a road map. It can never be turned into an engine. Figures will move no goods nor will the most elaborate records, of themselves, add a single new customer.¹⁹

XV

TO-MORROW AND TO-MORROW

IT IS SAID that a lobster, when left high and dry among the rocks, has not urge and energy enough to work his way back to the sea, but waits for the sea to come to him. If it does not come, he remains where he is and dies, altho the slightest effort would enable him to reach the waves, which are tossing and tumbling within a yard. The world to-day is too full of human lobsters stranded on the rocks of traditional business organization and methodology, calmly waiting for some grand billow of future fortune, or, perhaps, drifting for the time in the main currents of prosperity by pure chance and without any charted effort to direct their course. And yet, there can be neither security or assured prosperity in our present economic society if we depend upon the thinking of the economic drifter and of the complacent business manager. Limp thinking is in no way to be trusted, and the future is of moment to us all.

“To-morrows are more and more embodied in to-day,” and “The journeys of next week are here before the week arrives.”¹ In the actual conditions of the present there is a deal of fact and evidence which furnishes a sound base

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for significant speculation. Moreover, while changes often burst upon our economic institutions and our business methodology with astounding speed, everywhere the old and the familiar put up a front to meet the challenge of change. The fundamental economic institutions have a hold which cannot be quickly or easily loosened. Consequently, certain cautious inferences with respect to the new conditions and the new problems of the next decade would seem to be in order. The germs of these new conditions and new problems are already implanted in the soil of the present.

The present has an extended reach. It is an "area of time that reaches fore and aft" from this minute "a score of years or more."² Altho this chapter is entitled "To-morrow and To-morrow," what it really attempts to do is to look squarely at the present "under the restraint of the lessons of the past." If it extends the present into the future, it does so "under spur of imagination as to the possibilities of the future," but it still looks squarely at the present in its true time-significance.

In the field of production, the United States leads the world. While our country contains only 7 per cent. of the world's territory and only 6 per cent. of its population, it produces 90 per cent. of the world's motor-cars, 66 per

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cent. of the world's oil, 60 per cent. of the world's cotton, 55 per cent. of the world's timber, 40 per cent. of the world's iron and steel, 38 per cent. of the world's electric power, 85 per cent. of the world's films.

Everywhere we see automobiles that really look like pleasure vehicles. And it takes no Argus to find tires that will go 25,000 miles, brushing lacquer that dries in 30 minutes, washing machines that are wringerless, movie cameras that slip into a coat pocket, clocks that run by electricity, boilers that feed themselves, farm machines that cut and thresh grain at one operation.³

Out of our laboratories and our factories tumble an ever-increasing tonnage of goods. And the net increase in tonnage since 1922 is small as compared with the astounding growth in the variety of goods.⁴ The tempo of our industrial manufacturing is perfectly amazing. Per-capita productivity has increased by 30 or 40 per cent. in the past decade and is still increasing. The growth in our utilization of power is $3\frac{3}{4}$ times faster than the growth in population.

We are, of course, wedded to a policy of mass production at low manufacturing costs. Under such a commitment, it will be surprising if additional efforts are not in store for industry which still further will speed up the process of manufacturing and result in increased quantities of

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available goods. Moreover, business management recognizes that the consumer seldom resists the appeal of obsolescence. More and more, the "new" product is desired before the "old" product is worn out.⁵ Because of the consumer and the advancing contributions of science in product development, the opportunity to produce the new and the slightly different is always enticing to the producer. We need to expect an increasing variety of goods.

Cloth and paper are "slipping up from behind" with a flame-resistant process, thus freeing them from an ancient handicap in competition. Oil "looks across and beyond" and anticipates an engine designed to use pulverized coal. Chemistry, by the development of antioxidants, saves rubber tubing, about to be discarded by the player-piano industry, by lengthening its life ten times. The furniture industry is not asleep to the advance of metal tables, chairs, and beds in colors, and comes to grip with the sheet-metal makers.

In the research department of one of the great rubber companies is what might be called a "closet of the future." In it are all sorts of rubber articles. They are waiting for to-morrow. Their production is too costly for present competition.

But let external forces appear—leather prices go up, rubber prices go down, or the processing be cheapened a bit—and "present competition" will feel the pinch unless it has anticipated those external forces.⁶

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So far as amounts and varieties of products are concerned, the future probably holds for us wonder after wonder. Amazing achievement will follow on amazing achievement with a rapidity that will find no measure in our outworn stock of superlatives.

Three important observations would seem to be pertinent in this connection. In the first place, our industrial management and our manufacturing processes have become so expert already, that we have passed the point where our manufacturing output, "functioning steadily day in day out, can be absorbed by the consuming population." We probably have in the United States, even to-day, twice as much industrial-plant capacity as can be kept in steady operation without loading down the manufacturers' inventories far beyond the danger point. In the second place, much of our increased factory output is in the nature of comforts and luxuries which bid for the consumer's dollar and often win large portions of it at the expense of prime essentials. Finally, the consumer is very rapidly extending the factors of style and taste to the purchase of products in which these factors have scarcely figured before.

What, then, of manufacturing on the morrow? For one thing, business management will come to a clearer understanding of the fact that mass production at low cost presupposes mass dis-

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tribution at relatively low prices. Since low prices depend upon low total costs, there will be a more general realization of the marketing limitations upon mass production. Low manufacturing costs under a system of mass production necessitate the standardization of the product line which is being manufactured, and a large volume of continuous sales. The attainment of results is put squarely up to distribution and marketing. Paul Mazur summarizes the matter succinctly and forcefully:

High-cost distribution is the price exacted by mass production. Altho the services which high-pressure distribution has rendered to low-cost production are enormous, nevertheless the economies of manufacturing are being offset by the increasing cost of sales. Undoubtedly this in turn has stimulated new inventive and engineering skill to increase production efficiency, but there is a limit even to this possibility; and it is not at all an inspiring experience to find the rewards of manufacturing ingenuity swallowed up by increased marketing costs. Moreover, when economy in production has exhausted its major possibilities, a continuation of rising costs of sales will reflect itself in lower profits; and even with the hero-worship that exists for mass production, the American business man does not believe in volume for sake of volume unabettèd by a substantial profit-showing.⁸

In the future it is unlikely that manufacturers will attempt to apply mass production to the

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manufacture of goods which are purchased with the factors of style and taste as dominating buying motives. Already there are indications of the soundness of this statement. The manufacturer of goods which cannot be highly standardized must maintain a flexibility in his plant which will permit him to adjust his production to new demand-tendencies on short notice. Even tho goods can be standardized, if they will not sell more or less continuously and in volume in competition with similar goods that are changed very frequently, it is unprofitable to manufacture them under a system of mass production. In the manufacture of such goods, the trend to-day is away from centralization and larger factory units. In fact, the trend is quite definitely toward decentralization and smaller units.

Unquestionably, many manufacturers are already recognizing the fact that what they have been calling overproduction or underconsumption is simply the wrong kind of production.⁹ They see with increasing clarity that the wrong kind of output must be sold under distress conditions if it is sold at all. Reluctant as they are to decrease prices, they find it necessary to increase the sales pressure and to plunge into exorbitant marketing costs. These marketing costs increase the total costs and decrease profits. Systematic mass production does not pay for some types of products.

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Along with this development in manufacturing, undoubtedly, the principles of mass production will be applied in "backward" industries where the standardization of goods is possible. Such industries as coal-mining, textiles, clay products, the needle trades, and so on, can well undergo considerable improvement in their technological processes of manufacture.¹⁰ Mass production, however, is not desirable in all of these "backward" industries.

Again, there will probably be a considerable increase in manufacturing mergers as a result of a growing body of thought in such matters as have been pointed out above. Many attempts will be made to merge concerns which produce standardized goods on a mass-production basis with plants which produce goods that are dominated by factors of style and taste. In such mergers, one group of plants can be operated as flexible units while one large plant can be made to tumble its products off the assembly line in volume and with regularity.

On the side of distribution or marketing, present trends indicate many changes in the years that are just ahead. The seriousness of the problem of effective and economical marketing costs has been borne in upon the most complacent during the past decade. We are conducting our business operations in an "age of distribution," an age which has already begun to demand a

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thorough overhauling of marketing activities. Unquestionably, the drive for economy in distribution will result in the application of scientific procedure to the study of marketing problems. Already, great progress is being made by individual sellers in attacking the question of marketing costs.

In methods of distribution there are two present-day developments of importance—chain-store selling and instalment selling. We have in the United States to-day over 10,000 chain-store organizations with more than 100,000 retail outlets. In 1928 the sales of these chain-store organizations were estimated at 6.2 billion dollars or 15 per cent. of the country's retail trade. In the month of September, 1929, 41 new chain-store organizations opened 1,074 stores. Sales on the instalment plan probably total over six billions of dollars in this country to-day. The method is generally recognized and is particularly important in the marketing of automobiles, washing machines, vacuum cleaners, electric and mechanical refrigerators, oil burners, stoking devices, radios, phonographs, furniture, pianos, and jewelry.

The chain retail store appears to be with us for a considerable stay. The available facts seem to indicate that the chain store is an intelligent experiment in financing and operating retail establishments. By buying in quantity the chain

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makes its purchases at favorable prices. By eliminating slow-selling items, it cuts down its inventories. By practically discontinuing delivery, it reduces its operating expenses. By selling on a cash basis, it escapes the burden of credit losses. By scientific management, careful store arrangement, trained salesmanship, and judicious advertising, it secures volume of sales at low cost. The following statement with respect to the food industry is typical of actual results:

When it is realized that they (the chain stores) have substituted for the wholesale grocers' operating percentage of $10\frac{1}{2}$ per cent. and a retailer's percentage of $18\frac{1}{2}$ per cent., making 29 per cent. in all, a total operating cost for the combined agencies of 16 per cent. divided 5 per cent. for warehousing and 11 per cent. for retailing, representing a saving of 13 per cent., it must be recognized that they have built, upon a solid rock of savings, a business house that will remain unshaken and undisturbed.¹¹

It appears from reliable data that it is difficult for any retail business to count consistently and continuously on a net profit of more than about $2\frac{1}{2}$ per cent. Consequently, unless a retail business can make more than \$50,000 worth of sales per year, the proprietor of the particular retail establishment cannot count on a weekly profit of much over \$23. "This is less than the market price for good brains of the necessary type."¹² In the recent so-called Test Census

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of Distribution covering 80,000 independent retail stores in eleven cities, it is pointed out that 28 per cent. of the stores were trying to make living profits out of 1.6 per cent. of the business, and that 88 per cent. of the stores doing about 30 per cent of the business sold less than \$50,000 worth of goods each. So long as independent retailing implies incompetent operating practise or wasteful operating scale, there seems to be no doubt that the chain store will continue to flourish.

Many independents have taken a leaf from the book of the chain store. Instead of fighting the chain store and lobbying for restrictive legislation against it, they are forming voluntary chains. These voluntary chains assist in maintaining personal ownership in the retail, and even the wholesale business, but they adopt many of the fundamental principles of chain-store operation. In the grocery field, at the present writing, 65 per cent. of the total number of retail stores are independents. Of the remaining 35 per cent., 17 per cent. are chain stores and 18 per cent. are voluntary groups of independents. In this field, the voluntary chains have already exceeded the genuine chains.

To what extent chain stores will supplant the independents, and to what extent the independents will unite in voluntary groups until the 65 per cent. now operating actually inde-

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pendently have been supplanted or absorbed, depends upon the comparative creative and progressive ability and spirit and the business and managerial capacity of the executives of the respective groups.¹³

In the early days the chains were owned by individuals or by groups of associated partners. But to-day they are passing into the hands of large corporations. A program of a thousand new stores in the course of a single year is not an impossibility. Small chains are slowly expanding into larger ones, and large groups are merging other large groups. In 1917, a group of five large chains headed by the Acme Tea Company united and formed the American Stores Company with 1,223 stores. In 1928, the National Tea Company acquired a number of smaller chains and added 400 retail outlets in the year. The Walgreen drug chain started in 1927 with 106 stores. At the end of one year it had 200 stores. The Kroger Grocery Company has swallowed up ten medium-sized chains and now has 5,000 stores. There are 10,000 meat markets run by chain grocery companies, in addition to 2,000 markets in straight meat chains. Out of 800 grocery chains 262 have added meat departments to some of their stores. The Mirror Candy Stores are absorbed by the Happiness Candy Stores, the Happiness Candy Stores are absorbed by the United Cigar Stores, and the United Cigar

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Stores are absorbed by the Gold Dust Corporation. And so it goes. While the ownership of the chains tends to concentrate in the hands of fewer and larger corporate organizations, the ownership of the corporations themselves tends to diffuse among a larger number of stockholders. Those chain stores which were once owned by a few thrifty merchant princes are now owned by hundreds of thousands of investors. The process of distributing hundreds of millions of shares of chain-store stock is going on all the time.¹⁴

Already there are evidences of a growing struggle between the manufacturer and the retailer for the consumer's loyalty. Some manufacturers look upon chain and large-scale retailing in fear and trembling. They begin to think of controlling retail outlets through the establishment of manufacturers' chains. They want to get closer to the consumer in order that they may, through contact and behind-the-counter salesmanship, develop loyalty for manufacturers' brands. They see the desirability of "push" methods of marketing as a complement to the "pull" methods of national advertising to the consumer.

Furthermore, the competition of the meat chains and the rapid growth of the meat departments of grocery chains is causing concern. On their own side of the fence, the chains are increasing their efforts to win consumer loyalty

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for store or "private" brands and are reaching toward the control or ownership of their own manufacturing sources of goods.¹⁵ The large grocery and meat chains have set out to produce their own meats. They have acquired many small local packing-houses, and they are establishing others. They have found that they are frequently able to sell fresh meats to the consumer at just about the price they would have to pay Swift and Armour. Thus, they can undersell the local dealers and still make a fair profit. They are proceeding with their program of opening modest-sized packing-plants in sections contiguous to the source of supply. They are bringing back the old-time slaughter-house, which was forced out of business a generation ago by the large packing companies.

This one instance is indicative of the important marketing battles for consumer loyalty which are ahead.

Instalment selling, too, appears to have come to stay. It is used by the manufacturer who sells through his own outlets and by the large-scale retailer who buys where he will. As yet, of course, it has not been thoroughly tested as a permanent credit device. It will be still further examined, discussed, and altered. Without doubt, one of the greatest, if not the greatest social problem of any nation is concerned with the intelligence or lack of intelligence with which

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its citizens use their personal incomes. For this reason there are many altruistic fanatics who decry the practise of instalment selling in all its aspects. They feel that instalment selling has "created some six billions of new purchasing power out of thin air." They are positive that people are buying goods beyond the point of good judgment and beyond their ability to pay. This is not the general attitude of business, but there is growing evidence that distributors realize that cash must ultimately be paid in any system of instalment selling—cash plus 15 per cent. interest on the average. Purely business considerations are stimulating study and inquiry into how far people may go in spending up to their full capacity to pay, and how far they can obligate themselves for debts "based upon a relatively uncertain assurance that the capital will be produced to meet those debts." There is already the growing suspicion among many business men that if the "wholesale urge" to mortgage incomes before they are actually earned becomes a continuous and consistent method for the possession of the common articles of everyday use, business may suffer as well as the general good.

On the score of finance, the increasing temptation to spend which is the result of modern marketing has not seriously affected savings and investments. Life insurance policies in force

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passed the billion-mark in the autumn of 1929. The number of American stockholders is estimated by the President's Committee on Recent Economic Changes as 17,000,000 or one in every seven of population. The expansion of the investment trust is perhaps the most important financial development of the last decade. Through such organizations the small investor helps to finance all kinds of business enterprises. It is estimated that more than three billion dollars has gone into the security issues of the investment trusts, more than half of it within the past year and a half.

Another important development in the field of finance is the growth of the chain idea as applied to banking. These new groups or chain-banking systems are of three principal types. First, there are those groups in which the dominant element is a particular bank exercising direct or indirect, but perfectly definite, control over a number of other banks. Some 77 chains of this type are in existence, involving 402 banks and representing \$6,104,000,000 in banking resources. Again, there is the chain system in which a non-banking holding company is the dominant element. Some 28 chains of this type are in existence, involving 311 banks and representing \$4,929,000,000 in banking resources. Finally, there is the chain system in which the dominant control is exercised by individual per-

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sons or groups of individuals acting for themselves. There are some 167 instances of this type of chain, involving 1,071 banks and representing about \$1,468,000,000 in banking resources.

Generally speaking, but not universally, banking laws make it impossible for banks to build corporate chains directly. National banks are not permitted to invest in the stocks of other corporations, and this is also the law in a great many States as to State banks, altho trust companies ordinarily are allowed to make such investments. Therefore, broadly speaking, existing laws have resulted extensively in chain-bank organizations being controlled either by a holding company created specifically for the purpose and owned pro rata by the bank's stockholders or by a trust for the benefit of stockholders or a given bank or group of banks. Closeness of tie, however, between the dominant banks and a chain system is not seriously impaired by those legal devices, which after all amount merely to a paper partition in the organization controlling the bank chain, with physical arrangements, management and operating personnel virtually a unit.²⁶

These new banking chains have many seeming advantages. They can adopt and standardize the best accounting and auditing methods. They can provide a greater mobility of commercial banking funds with safety and propriety. They can handle desirable loans, too large for an individual bank, by dividing the loan with the

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holding company and other members of the chain. Moreover, they are able to secure a geographical distribution of risk as well as a diversification of credits and investments. If mergers, consolidations, inter-industry competition, and cooperative association are the necessary instrumentalities to produce and market in the future, then the banking facilities must be marshaled and organized in order to furnish credit for these mass operations.¹⁷ If these chains can succeed in preserving the local character of their individual establishments by retaining local management and personnel and distributing chain stock through the communities which they serve, they will probably persist and expand.

Such, in brief, are some of the manufacturing, marketing, and financing tendencies of the immediate future. The list is short and the treatment sketchy, but the limitations of space forbid extension and expansion. However, one thing seems sure—all these tendencies are working in the direction of large-scale business organization and operation by means of merger, consolidation, and associated enterprise. What, then, will be the effect of all this upon the economic anomaly which was expressed in our first chapter? Will it be resolved, compromised, integrated or intensified?

The conflict between the individual business interest in making money and the social interest

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in the making of goods cannot be resolved under a business or money-profits economy. A complete resolution of this conflict would be possible, theoretically, under a system of communism. Under such a system, the community would own and control production as well as direct the distribution of goods among its citizens. The rough formula goes as follows: "From each according to his abilities, to each according to his needs." Theoretically, if distributive shares are predetermined, each individual in society would gain most when production was greatest. Under this type of system, the profit motive would be eliminated. But such a condition does not present any likelihood of increased production of goods with a consequent higher average level of well-being. Moreover, it is perfectly evident "that what is everybody's business is nobody's business, and that the socialization of responsibility makes for individual irresponsibility."¹⁸ The pertinent question is simply this: what motive other than money-profits will impel individuals to exert their full abilities in producing goods? What price a system of ideal distribution if there is nothing to distribute? Finally, any system which restricts liberty and limits freedom of choice might give the individual in society a larger material supply of goods, but it would surely "result in a lessening of total gratifications."

Again, this conflict may be resolved under a

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system of anarchism, the complete individualization of responsibility for production. If each individual or family produced all that it consumed and consumed all that it produced, we would have such a system. "Exchange would not occur—and so 'society,' in its economic sense, would cease to exist."¹⁹ Nevertheless, the material welfare of every individual would depend upon his productive activities. Such a system, however, is almost unthinkable.

Now, various degrees of compromise may be effected between the two conflicting aims of the individual and of society. Social control of the process of want-satisfaction is the method of compromise, and this social control may take the form of direct participation by the government (socialism) or the form of governmental regulation of private enterprise and capitalism. Socialism advocates the collective ownership or democratic management of production. It does not go so far as communism, in that it advocates not an equal distribution of wealth, but rather a change in the method of "directing production and distributing incomes." While there are many brands of socialism, it may be said that fundamentally most socialists believe in the following principles: First, the abolition of the rights of private ownership in the means of production, with retention of private property

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in articles of personal use. Second, the administration of the means of production collectively through a democratic political organization. Such a system would add greatly to the powers of government and increase the number of government offices. This would increase the number of candidates and intensify elections and preceding campaigns. "Even business competition is probably less wasteful than a political campaign."²⁰ Moreover, a system of complete social ownership inevitably becomes inflexible and bureaucratic. It cannot quickly adjust itself to changes in demand or to new methods of production. It would not, in all probability, be able to administer and operate productive machinery at any approach to its present efficiency, however unsatisfactory that may be. Finally, the system does not express actual human nature.

It is very difficult for us even to amuse ourselves without some element of competition. Find out what amuses people, what gives them a thrill or leads to a feeling of exaltation, and you at least have a clue to some of the essential qualities in human nature. You will not have to go very far to discover that tens of thousands of people will turn out to witness a competition of one sort or another, ranging all the way from prize fights to games of golf. Newspapers, which probably sense the public feeling pretty accurately, will give columns of space to games of chess or whist. You will have to go a long way before you find tens of thousands of people

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turning out to watch men cooperate, where there is no element of competition involved.²¹

Whatever general social control of business activity is to be exercised in the next decade will, in the main, take the form of government regulation, restriction, and promotion, rather than of direct governmental participation in production on any extended scale. Private enterprise and the incentive of money-profits based on private property will continue to be the rule.

Finally, it should be pointed out that the present trends in business management are actually tending toward an integration of the economic anomaly. Under present and probable future conditions it is and will be more necessary than ever to make goods in order to make money-profits. Moreover, it will be necessary to avoid the overproduction of the wrong kind of goods. Manufacturing, marketing, and financing trends, when closely examined, indicate a decided tendency toward the making, handling, and selling of more tangible goods and services, and goods and services which are valuable in their "net effect on health, happiness, and habits." In this direction lies the integration of the great economic conflict.

Through the combination of integration and compromise by means of government regulation, restriction, and promotion will come the future adaptation of our present economic system in

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the interests of softening the intensity of the economic anomaly.

Thousands of experiments have been tried with all sorts of social plans, institutions, and systems. Up to the present time, the one under which we are now living has produced somewhat better results, or, to put it mildly, has worked a little less badly than any other. A mechanical engineer or a plant breeder would, under similar circumstances, select it for further experimentation and improvement rather than scrap it altogether and start with something that was entirely new and untried.²³

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